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[illegible] REFRIGERATOR CAR [illegible]

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[illegible] TANK CAR [illegible]

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[illegible] MODERN TANK CAR [illegible]

[illegible]

[illegible] MODERN TANK CAR [illegible]

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[illegible] GALLON TANK CAR [illegible]

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[illegible] REFRIGERATOR CAR [illegible]

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[illegible] CENTER FLOW HOPPER [illegible]

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[illegible] COAL HOPPER [illegible]

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[illegible] **LATEST REVIEWS**

[illegible] **BOOK & VIDEO REVIEWS**

[illegible] **NEWS**

[illegible] **EXHIBITION DIARY**

FROM THE EDITOR

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Big numbers for our hobby

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Reader Feedback

June 2014:
The latest model railroad products, news & events

by Richard Bale and Jeff Shultz

Paul B. Scoles III, MMR 1943-2014

Paul Scoles passed away May 9 from complications following surgery. Paul was widely recognized in the model railroad community as one of the most creative scenery modelers in the hobby. He pursued model railroading as an art form and shared his philosophy and creative skills in numerous clinics, videos, books, and in more than 70 published articles.

Paul was generous with his time and welcomed visitors to view and operate his incomparable Sn3 Pelican Bay Railway & Navigation Company layout in the basement of his home near Seattle WA. Paul's wife Cynthia, plans to keep her husband's layout available to his local operating group.

A native of Lima OH, Paul earned his bachelors degree at Arizona State and a masters degree in philosophy at Northern Arizona University. He operated Ironwood Studio, a full-service recording studio with a list of clients that ranged from the Seattle Symphony to emerging garage bands.

Paul served his country as a combat infantryman with two tours of duty in Vietnam. In addition to several unit decorations, Paul returned from the war with personal awards including two Silver Stars, a Bronze Star with "V" device, two Purple Heart Medals, Republic of Vietnam Gallantry Cross Medal with Palm device, and Republic of Vietnam Campaign Medal with "60-" device. Paul suffered from painful shrapnel wounds in his legs throughout his life.

In addition to his wife Cynthia, Paul is survived by a son Eric, and two grandchildren. ...

TSI acquires The Great Train Expo

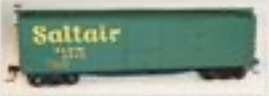
The Great Train Expo has been acquired by Train Show Inc (TSI). TSI is the parent company of The Great Midwest Train Show, World's Greatest Hobby on Tour, and Greenberg's Train and Toy Show. The announcement was made by TSI president Randy Bachmann who also owns Hobby Show Promotions which took over management of the annual iHobby Expo in 2013. Bachmann said they plan to sponsor shows in many of the venues formerly used by Great Train Expo, adding, "The purchase allows us to produce events from coast to coast and provides the opportunity to improve all our shows." A revised show schedule is expected to be posted at www.trainshow.com in the coming weeks. ...

Horizon Hobby/Athearn

Horizon Hobby/Athearn has posted career opportunities for experienced model railroaders with specialized professional skills interested in turning their avocation into their vocation.

The company is interested in hobbyists with experience in marketing, product development, creative design, and customer service. The positions currently open for consideration are Athearn brand manager, customer service representative, product developer, product development manager, and a graphic artist. For a detailed list of career opportunities visit horizonhobbycorp.com/careers. —

CAR CLUB OFFERINGS



The **NMRA's Northern Utah Division** (northernutahnmra.org/club-car) is raising money through the sale of two unique HO scale car kits. The first is a 40' double-sheathed wood boxcar decorated for Salt Lake, Garfield & Western with a bold Saltair slogan. The color scheme of the car is based on SLG&W passenger equipment in use in the 1940s and '50s.

The second kit is for a USRA twin-bay hopper decorated for the Tooele Valley Railway. Both kits are manufactured by Accurail and include trucks and couplers. Visit the above website for pricing and ordering information.

Three custom cars are available now from the **Torrington Area Model Railroaders** (ct-tamr.org/clubcars.html) of Torrington CT. The HO scale ready-to-run cars include a 50' Conrail X71 boxcar with one door painted green. The door on the opposite side of the unique car is the same color as the car body. The model is available at $30.00 each.

The second and third cars are Guilford/D&H Trainman PS-2 covered hoppers. One has a Guilford G (above) and the other a D&H shield. The covered hoppers are priced at $25.00 each. The PS-2 cars were produced for the club by Atlas. Visit the above website for ordering information.

NEW PRODUCTS FOR ALL SCALES

"Amtrak Power, Volume 3" has been released by **Morning Sun Books** (morningsunbooks.com). Authored by Stephen M. Timko, this volume completes the Amtrak Power series by covering the electric fleet from the historic GG-1s to the lesser-known Amtrak E44s. Metroliners, AEM-7s, HHPBs, RDCs, Turbos, and the Acela trains are all reviewed.

Additional new books available from Morning Sun include "Appalachian Coal Mines and Railroads In Color Volume 2: Virginia," featuring the work of noted Appalachian-area photographer Everett Young.

Also "Railroad Critters In Color Volume 5," with over 330 new photos of minority builders including Atlas, Davenport, Plymouth, Porter, Vulcan. Small industrial locomotives built by Baldwin, EMD, and GE are included.

The State Belt

Signature Press (signaturepress.com) has released "The State Belt – San Francisco's Waterfront Railroad." The book tells the story of the state-owned railroad that served the piers and industries of the San Francisco waterfront area, interchanging with Southern Pacific at King Street, and with Santa Fe, Northwestern Pacific, and Western Pacific by car float. Additional details including pricing are available at the above website.

O SCALE PRODUCT NEWS

Atlas O (atlaso.com) has released information about the next production run of Trainman series 60' heavyweight passenger cars. A coach has been scheduled for release during the 3rd quarter of 2014. It will be decorated for Burlington, Chesapeake & Ohio, Milwaukee Road, New York Central, and CNJ/NJDOT as illustrated here. Three-rail versions of the O scale car will have an MSRP of $99.95. Cars equipped for two-rail operation will list at $104.95.

A baggage car (left), a combine, and a railroad post office car decorated for Milwaukee Road, New York Central, and Chesapeake & Ohio will also be available in the 3rd quarter. Details are available at the above website.

New models due from Atlas O during the 4th quarter of 2014 include a modernized 50' PS-1 plug-door boxcar. The thoroughly insulated car was designed to carry canned food stuffs that did not require refrigeration but did need protection from temperature extremes. The plug-style doors provided a tight seal to protect the load from dust and extreme shifts in temperature. Road names will include Missouri Pacific, CGW-Chicago & North Western, Chessie System, Union Pacific, and Southern Railway as illustrated here.

Also scheduled for release by Atlas O in the 4th quarter of 2014 is a group of Trainman 50' single- sheathed wood boxcars with double doors for auto service. Road names will be Northern Pacific, Santa Fe, and Western Pacific – all with Youngstown corrugated steel doors. A car decorated for Rock Island will be available with wood doors.

Atlas O has scheduled the delivery of a new run of its SW series diesel locomotives for the 1st quarter of 2015. The ready-to-run model replicates prototypes built by EMD in the late 1930s. Road names for the SW-8 will be Boston & Maine, Canadian National, and Rock Island. SW9 engines will be decorated for Indiana Harbor Belt and Missouri Pacific. SW900 versions of the ready-to-run O scale locomotive will include Reading and Raritan River as illustrated here. Both two-rail and three-rail versions will be available with optional Lionel Trainmaster Command and RailSounds 4.0. See the above website for details and pricing.

Morgan Hill Models (morganhillmodels.com) is selling a kit for an On30 28' low-side wood gondola. Included in the kit are cast resin frame and side stakes, Mt. Albert basswood for the sides and deck, and Grandt Line detail parts. The kit is available for $29.95 less trucks and couplers.

HO SCALE PRODUCT NEWS

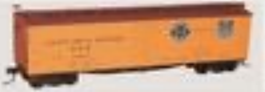
The latest HO scale kits

released by **Accurail** (accurail.com) include a Great Northern 40' USRA double-sheathed wood box car. The kit has an MSRP of $16.98.

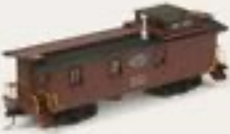
Also new from Accurail is a three-car set of ACF triple-bay covered hopper cars. As seen here, the cars are decorated for Chessie System in three different variations: B&O, WM, and C&O. The three- pack set has a list price of $52.98.

Accurail's Bessemer & Lake Erie USRA 55-ton twin-bay hopper represents a prototype built in 1918. The kit, which has an MSRP of $15.98, includes a decal renumbering set to allow the modeler to apply different numbers to a string of hoppers.

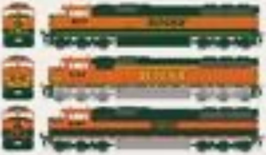
This 50' double plug-door steel boxcar is available from Accurail in kit form at an MSRP of $16.98.



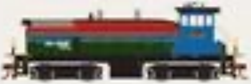
A double herald SP-UP Pacific Fruit Express wood reefer is available from Accurail in a two-car set at $34.98. The HO scale model is based on a prototype built in 1923 and rebuilt in 1952. Trucks and couplers are included in all Accurail kits.



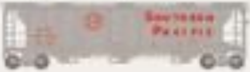
American Model Builders (laser-kit.com) has a new kit for a New York Central 19000 series wood caboose. The kit features numerous precision laser-cut components with laser-scribed sides. Details include cast resin platform steps and brake gear, cast white-metal smokejack, and injection molded turnbuckles. Several fixtures are shown to aid the modeler in replicating the handholds, ladders, and truss rods found on the prototype. Options for the model builder include square or rounded body corner posts, side windows that can be modeled open or closed, two different styles of end ladders and running boards, and variations on the end windows of NYC's distinctive low profile cupola. A set of screen doors and windows are provided along with custom decals and illustrated instructions that include information on painting and finishing the assembled model. The craftsman kit has an MSRP of $59.95. Trucks and couplers are not included.



Athearn's (athearn.com) next production run of Genesis SD60 locomotives will include three different BNSF paint schemes. The mix shown above (from the top) will include Heritage I, Heritage II, and a new BNSF experimental scheme. Additional road names in this release will be Norfolk Southern (Horsehead scheme), Conrail, and Union Pacific (SD60M). All are due to arrive in late December.



Also scheduled for release in late December are SW1500 locomotives decorated for Amtrak, Conrail, D&RGW (SW1000), BNSF (heritage), BNSF (wedge scheme), NS (Horsehead scheme), and NS (River Street Rambler scheme) as seen above.



Athearn will include a Ready-to-Roll® PS-2 2893 covered hopper in the December release. In addition to the SP car shown here with red lettering, other road names will be Reading, Grand Trunk (blue), Central of Georgia, and C&O (progress scheme).

An HO scale single dome tank car is also scheduled for release in late 2014. Road names will be UTLX, Indian Refining, GATX, Crystal/Red, and ATSF (above). The MSRP will be $26.98 each.

A group of 53' CIMC containers will be available in a three-pack at an MSRP of $29.98. Owner names will be Marten, HUB Group, EMP, CSX/Boxcar, COFC Logistics, and Schneider as illustrated here. The HO scale stackable containers feature separate door closure rods.

Athearn's list of releases for late December concludes with a caboose; a steel bay window type with an MSRP of $19.98. Road names will be Chicago North Western (illustrated here), Western Pacific, Southern Pacific, Norfolk Southern, Erie Lackawanna, and FNM – Ferrocarriles Nacionales de Mexico. Some roads will have plugged windows depending on the practice of the prototype.

Atlas [atlasrr.com] is scheduled to release a new run of its Master series pulpwood flat cars during the 4th quarter of this year. The HO scale models come with a pulpwood load for the V-deck cars.

They will have an open or closed bulkhead depending on the practice of the prototype road which includes Delaware & Hudson, Louisville & Nashville, Frisco Line, Maine Central, Santa Fe, and Seaboard Coast Line. The ready-to-run models will have an MSRP of $34.95 each. An undecorated car will list at $24.95.

GENESEE
WYOMING

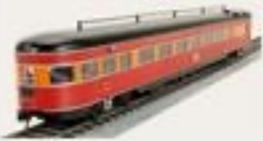
Also coming in the 4th quarter of this year is an Atlas Trainman® kit for a 1937 AAR 40' boxcar. Three numbers each will be available for Canadian Pacific (Spans the World slogan), Detroit & Mackinac, NC&StL (Dixieland slogan), New York Central (jade scheme), Union Pacific (Road of the Streamliners slogan), and Genesee & Wyoming. The kits will have an MSRP of $18.95. An undecorated kit will list at $13.95.

Bachmann (bachmanntrains.com) has released its Heritage series GE ES44AC and SD70ACe diesel locomotives. Decorating schemes available on the ES44AC are Central of Georgia, Lehigh Valley, Pennsylvania, Nickel Plate Road, and Southern Railway.

Decorating schemes for Bachmann's Heritage Edition SD70ACe include Wabash, Erie, Jersey Central Lines, Virginian, and New York

Central. Visit the above website for additional information including details on the sound systems available and pricing.

Additional new items from Bachmann include a Silver Series 50' 6" drop-end gondola. The HO scale ready-to-run model comes with different loads for each road name: Western Maryland (scrap load), Nickel Plate Road (tire load), Denver & Rio Grande Western (steel coil load), and Reading (crushed rock load). Visit the above website for pricing and availability on specific road names.



Over the next several months, **Broadway Limited Imports** (broadway-limited.com) will release individual cars for both the 1941 and 1953 versions of Southern Pacific's beautiful Daylight train. The skirted prewar cars (above) were lettered "Southern Pacific Lines". The postwar cars were not skirted and "Lines" was deleted from the letter board (next page).

The cars include a passenger-baggage combine, chair car, two-car articulated chair car, tavern car, three-car articulated café-kitchen-diner, and the parlor-observation illustrated here. Visit the above website for pricing and detailed specifications. BLI has created a video about the models viewable at broadway-limited.com/spdaylighttrainsho.aspx.

Bowser (bowser-trains.com) has scheduled a December delivery date for the next production run of Alco C-430 diesel locomotives. The HO scale Executive Line models will be available for Western New York & Pennsylvania (both black and red versions), New York Central, Susquehanna, Penn Central, Conrail (both blue and black versions), GBW, Lehigh Valley, Rock Island, and Alco Century demo scheme.

Bowser is accepting reservations for its GMD SD40-2 diesel locomotives until July 18. Delivery is planned for spring 2015. Road names for the HO scale version of the Canadian-built prototype will be Dakota, Minnesota & Eastern; Ontario Northland (as delivered in green with yellow and red stripes); ON (yellow scheme with chevrons); British Columbia Railway (two-tone green); BC Rail (red, white and blue hockey stick scheme); and CP Rail (six different schemes). Visit the above website for pricing and reservation details.

Bowser has a selection of original Stewart F unit diesels equipped with LokSound Select Dual-Mode decoders and lighted number boards. Decorating schemes available for F3 units include New York Central, MKT, Maine Central, CGW, CB&Q, Milwaukee Road, and Soo Line. F7 diesel road names include Canadian National, Amtrak, Baltimore & Ohio, Lehigh Valley, Reading, Western Pacific, Rock Island, Missouri Pacific, L&N, Western Maryland, and Cotton Belt. F9 road names currently available include Santa Fe (blue and yellow freight scheme), Burlington Northern, D&RGW, and Milwaukee Road. A units are available for the F3, F7, and F9 locomotives mentioned above. For availability of matching B units as well as pricing for the Stewart F series locomotives visit their website.

Con-Cor (con-cor.com) is selling Pennsylvania Railroad-class mP54 MU electric cars as refurbished in the 1950s. Upgrading the cars was accomplished at PRR's Wilmington Shops. The overhaul included replacing the old wooden window sashes with new, highly visible aluminum frames.

The PRR cars are available in the pre-war keystone scheme (above) and the post-war Pennsylvania scheme (below).

Most of the refurbished cars continued to operate into the Penn Central era and were repainted as shown below.

Visit the above website for pricing and ordering information.

Digital Fox (digitalfox.com) sells custom decorated kits of various HO scale Accurail kits. Items currently available include a CRDX-Central Soya 40' insulated plug-door boxcar with Dreadnaught ends at an MSRP of $16.99.

Also available now is a PFE/WP 40' wood reefer based on a prototype originally built in 1924 and rebuilt in 1948. The reefer kit is available in six numbers at an MSRP of $17.99 each.

Scheduled for release later this month is an HO scale kit for a Nickel Plate Road 40' wood stock car. It will be available in three road numbers at an MSRP of $16.99 each.

Metal wheelsets can be substituted at $2.69 per kit. Visit the above website for ordering information including details about reduced pricing for multiple purchases of the same kit.

Division Point (divisionpoint.com) has imported brass models of New York Central 2-8-2 Mikado steam locomotives.

Handcrafted in South Korea by Boo Rim, the HO scale models accurately replicate the class H-10a and H-10b prototypes built at Schenectady in 1924. Visit the above website for additional details including a list of authorized dealers.

InterMountain Railway (intermountain-railway.com) has added four painted but unlettered models to the run of HO scale ES44DC Evolution series locomotives due for release late this year. The unlettered versions will be available in black, white, silver, and gray. Fully decorated road names will be BNSF (Heritage II scheme), BNSF (new image scheme with black logo), CSX, Canadian National, and Norfolk Southern. The ready-to-run models will have an MSRP of $199.95 or $289.95 with sound.

Kadee (kadee.com) is scheduled to release an HO scale ready-to-run model of a Northern Pacific twin-bay covered hopper car in August. The HO scale model replicates a PS-2 prototype built in 1957 with eight round hatches and decorated with light gray alkali resistant paint.

Also coming from Kadee in August is a 40' steel boxcar with a 6' five-panel Superior steel door. The prototype was built in 1954. Kadee's HO scale ready-to-run kit will have an MSRP of $34.95.

This Nashville, Chattanooga & St Louis 50-ton Standard AAR twin-bay hopper is scheduled for release by Kadee in August. It will have an MSRP of $41.95 including the coal load.

Maple Leaf Trains (mapleleaftrains.com) is selling a cast resin kit for a GP9 slug. The principal contents of the kit are a resin cast body and frame, etched metal parts, cast resin details, and instructions. The HO scale model represents class GY00d and GY00e slugs (CN# 215-241).

Trucks, sideframes, MU hoses, grab irons, and an LED for the headlight are not included.

NJ International (njinternational.com) has introduced a Barrel Rack kit with sufficient material to assemble a rack and 24 barrels. The HO scale kit is composed of molded plastic parts. Kit #6110 has an MSRP of $19.99.

In conjunction with Canada's Expo 67, a special train was assembled to tour the nation and promote the Expo as well as Canadian history. Named the Confederation Train, equipment was provided by both Canadian National and Canadian Pacific railroads. The consist included FP9As from both roads, a CN steam heater car, and several smooth-side passenger cars. All

1867 1967
canada

of the equipment was decorated in a dramatic paint scheme designed especially for the train. To help signal the presence of the train, the locomotive horns were tuned to replicate the opening notes of "Oh, Canada."

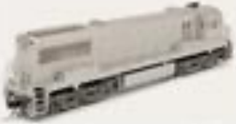
1867 1967
confederation

Rapido (rapidotrains.com) has announced plans to produce an HO scale version of Canada's Confederation Train. In addition to the unique paint scheme, the locomotives will be equipped with dual-mode ESU LokSound decoders that replicate the "Oh, Canada" horn notes. Rapido will require a minimum of 300 reservations in order to proceed with this unique project. For complete details visit the above website.

Tropicana
Tropicana

Red Caboose will release its Tropicana 57' mechanical refrigerator car in several paint schemes late this year. There will be eight variations of the white car and four of the orange car

The MSRP on the HO scale ready-to-run model will be $39.95. InterMountain Railway is responsible for marketing Red Caboose products. For additional information visit intermountain-railway.com.



Here is a preview photo of **Rivarossi's** newly-tooled GE U25C locomotive. The initial release of the HO scale ready-to-run locomotive is expected later this month. Two numbers each will be available for Chicago, Burlington & Quincy; Atlantic Coast Line; Northern Pacific; and Pennsylvania Railroad. Models equipped with DCC/Sound will have an MSRP of $299.99. Models for conventional DC operation will list at $219.99. According to Hornby America, Rivarossi's North American distributor, the new U25C will be manufactured from all new tooling and has no relation to the model Rivarossi introduced in the 1960s. For additional information visit hornbyamerica.com/shop/hornby/rivarossi/diesel-locos.

Virginia Foundry & Model Works is taking reservations for a resin kit for an HO scale 34' boxcar from the truss rod era. The prototype was a New York, New Haven & Hartford double-sheathed boxcar with an outside end sill built by the Michigan Peninsular Car Co. in 1895. The kit is composed of several cast

resin parts including the floor, doors, running board, bolsters, end sills, some support pieces, and a one-piece body. Kadee #5 couplers are included along with additional detail parts by Tichy, PSC, Bitter Creek, and Grandt Line. Trucks are either 30-ton Fox from Shapeway, or Tahoe arch bar trucks with InterMountain metal wheelsets.

Prototype specific details provided in each kit allow it to be built to represent cars for the following road names: Kansas City, Pittsburg & Gulf; Rutland Railway; Armour & Company; Big 4; and New York, New Haven & Hartford (with Fox trucks, all others have arch bar trucks). The kits are priced at $41.00 each plus postage, however advance payment is not required. For additional information or to make a reservation send an email to John Canfield at jcan2x@hotmail.com.

Walthers (walthers.com) is accepting reservations for Proto series Union Pacific E9AM and E9BM locomotives. Delivery is scheduled for April 2015. The HO scale ready-to-run models will be decorated in UP's Heritage scheme as applied to equipment used in excursion service from 1993 to 2000.

WalthersProto passenger equipment to match the UP Heritage E9 locomotives will be available beginning this October. The mix includes five ACF 85' cars: a coach, a dome-coach, a diner, a dome- diner, a dome-lounge (above), and a Budd-built 10-6 sleeper. All are HO scale ready-to-run models.

Walthers has just released a Mainline® series ALCo DL109 diesel locomotive. In addition to the Milwaukee Road scheme shown illustrated here, the HO scale ready-to-run model is available in four different New Haven liveries; McGinnis, Cranberry, Hunter Green with gray stripes, and Pullman green with simplified striping. Visit the above website for additional details and pricing.

Walthers is scheduled to release a group of PRR class N6B wood cabin cars with centered cupola in July. A total of six decorating arrangements will be available including the one shown here with a black cupola and a shadow keystone positioned above the road name. The HO scale ready-to-run cabooses will have an MSRP of $44.98.

Westerfield Models (westerfieldmodels.com) has issued upgraded versions of its 2900 series kits for USRA steel boxcars. The remastered kits feature a one-piece cast resin body. The New York Central version has Dreadnaught ends. Cars with 7/8 Murphy ends are available for Cleveland, Cincinnati, Chicago & St. Louis; Peoria & Eastern; Hannibal Connecting Railroad; Northampton & Bath, Maine Central, Nothern Ohio Railroad, and Bangor & Aroostook. The kits come with appropriate decals but without trucks or couplers. They are priced at $39.00 each.

York Modelmaking Ltd., (yorkmodelmaking.co.uk) sells an interesting selection of laser-cut kits including the foot bridge shown here. Although this item is OO (1:76) scale it can be effectively used in many HO settings. Visit the above website for additional information.

N SCALE PRODUCT NEWS

American Model Builders (laserkit.com) has a new kit for a Norfolk & Western class CF wood caboose. The N scale kit replicates the as-built prototype with the option of modeling the car with the original canvas covered roof or the metal roofing the prototype received in later years.

The kit features laser-cut components with laser-scribed birch plywood side, end walls, and cupola. Windows, doors, and trim are peel & stick. Additional details include metal end platforms, ladders, end railing, hand grabs, toilet hopper, tool box, and brake wheels. Also cast resin platform steps and brake gear, and a plastic smokejack. The illustrated instructions include information on painting and decaling the assembled model. The N scale kit has an MSRP of $31.95 less trucks, couplers, and decals (Microscale #60-482 recommended).

Athearn's (athearn.com) release schedule for December includes a PS-2 2893 covered hopper. In addition to the blue GT car shown here, road names will include Reading, Central of Georgia, C&O (progress scheme), and a gray SP car with red lettering. The N scale model will have an MSRP of $19.98 each.

Great Northern

Atlas (atlasrr.com) plans to release an N scale 40' PS-1 boxcar during the 4th quarter of 2014. Two numbers each will be available for Ann Arbor, Atlantic & West Point, Central of Georgia, Louisville & Nashville, Rock Island, Virginian Railway, and Great Northern. The N scale ready-to-run model will have an MSRP of $27.95. An undecorated version will list at $21.95.

Also coming from Atlas in the 4th quarter of this year is a 90-ton open hopper complete with a load of coal. The Trainman series model will be available in three numbers each for Conrail, BNSF, Burlington Northern, Clinchfield, Norfolk & Western, and Rio Grande. The ready-to-run model will have an MSRP of $18.95. An undecorated version of the N scale car will list at $13.95 each. All Atlas N scale cars come with AccuMate operating couplers.

Bachmann (bachmanntrains.com) has released an N scale EMD NW2 diesel switcher in five decorating schemes. In addition to the Great Northern version shown above, the ready-to-run locomotive will be available for Union Pacific, New York Central, and Pennsylvania Railroad. It will also be available painted yellow and black but without any lettering. The model has an MSRP of $149.00.

Fox Valley Models (foxvalley.com) has scheduled a new production run of it ES44AC GEVO locomotive for release late this year. New tooling will be used to produce three different bodies with three different cabs. Road names will be Citirail, UP (ES44A with new PTC antenna array) and General Electric Evolution Hybrid scheme as illustrated here. The N scale ready-to-run models will have an MSRP of $130.00. They will operate on standard DC and will accept an after-market DCC decoder (not provided) such as a Digitrax DZ125IN or TCS EVN651. InterMountain Railway is responsible for marketing Fox Valley products. For additional information visit intermountain-railway.com.

The Hobby Smith (hobbysmith.com) is selling N scale Spokane, Portland & Seattle Alco RS-3 diesel locomotives in the as-delivered maroon, olive green and tiger stripe scheme. Road numbers 95 and 98 are available as well as a painted but unnumbered version. The ready-to-run locomotive models are manufactured by Atlas for The Hobby Smith. They are DCC-ready and come with body-mounted couplers and directional lighting. The MSRP is $119.00 each or two for $218.00.

KatoUSA (katousa.com) plans to begin shipping two-packs of EMD F2 and F3 locomotives this month. The release includes Atlantic Coast Line (F2A, F2B), Chicago, Burlington & Quincy (two F2A), Rock Island (two F2A), and Chicago & North Western (two F3A).

All units are powered for standard DC operation. They are DCC ready and compatible for after- market decoders (not supplied) such as TCS KOD8 or Digitrax DN163K0B. Visit the above website for pricing information.

Micro-Trains Line (micro-trains.com) has several new releases including this 50' Atchison, Topeka & Santa Fe double-door boxcar. This modern car is equipped with a Shock Control cushion underframe and ends with six non-terminating box ribs.

Micro-Trains has decorated this 40' Chesapeake & Ohio boxcar with dark blue side and black ends and a large yellow C&O

logo. The C&O became part of the Chessie System in 1972 along with the Baltimore & Ohio and Western Maryland Railway. It was later combined with the Seaboard Coast Line and Louisville & Nashville, to become a key portion of CSX Transportation in the 1980s.

M-T continues to expand its selection of N scale heavyweight passenger equipment with the release of this 83' Pullman 12-1 sleeper. The car is painted in NYC post-war two-tone gray scheme. Centered below the window is the name East Alton.

Additional new N scale ready-to-run models from Micro-Trains include a 39' single dome tank car painted black with white lettering for the Mid-Continent Petroleum Corporation. Also new is a CB&Q 50' boxcar with double Youngstown doors. It has a full ladder but no running boards.

The prototype of this Northern Pacific 40' double-sheathed wood boxcar was built in 1925. The 4' monad and the Mainstreet slogan are post-1948. By 1966 the car was stenciled for hide service since its interior was not suitable for clean loading.

M-T modeled this DRGW 50' plug-door boxcar after a prototype built by Pacific Car & Foundry in 1962. The decorating scheme

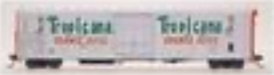
on the N scale ready-to-run model includes a green "No Damage" stripe. Pricing and additional details on all Micro-Trains product can be viewed at the their website.

Rapido Trains (rapidotrains.com) is accepting reservations through June 13 for its new Canadian National GMD-1 diesel locomotive. The prototype was designed and built by General Motors, London, Ontario. Rapido's N scale version will be available with a DC/DCC dual mode ESU decoder or an ESU DC/DCC/Sound LokSound decoder.

In addition to the original GMD-1 1000 series with the cab interior configured for operation with the long hood forward, Rapido will also offer the 1988 rebuilt 1600 series GMD-1A. The rebuild involved reorienting the cab controls to run short hood forward. Additional changes included the installation of a chemical toilet with an access door in the short hood, relocating the batteries, and the addition of anticlimbers, ditch light brackets, and straight exhaust stacks.

Paint schemes will be Canadian National (green), CN (noodle, black), CN (noodle, black and red), and undecorated, all with DCC/Sound at an MSRP of $249.00 each. Models for standard

DC operation will list at $359.00. A power chassis only will also be available. Visit the above website for details including special pricing on models decorated for Northern Alberta Railways.

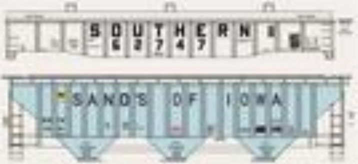


Red Caboose will release its Tropicana 57' mechanical refrigerator car in several paint schemes late this year. There will be eight variations of the white car and four variations of the orange car.

The MSRP on the N scale ready-to-run model will be $26.95. InterMountain Railway is responsible for marketing Red Caboose products. For additional information visit intermountain-railway.com.

NEW DECALS, SIGNS AND FINISHING PRODUCTS

New items from **Mask Island Decals** (maskislanddecals.com) include the PS-built Southern Hydro Cushion gondola shown on the next page.



Also new are five road names for 4750 triple-bay covered hopper cars including the Sands of Iowa set for a light blue car. The others are Tidewater Grain, Missouri Pacific (screaming eagle), Missouri Pacific (buzz saw medallion), and Farmers Coop. Added to the most recent listing are decals for a *Great Northern* 70-ton twin-bay covered hopper. Visit the above website to order.

New wet decals from **Microscale Industries** (microscale.com) include Southern Pacific 26' ore cars (above left); locomotives, freight cars, and cabooses for U.S. Army, Air Force, and Dept. of Defense (DODX), EMD Leasing (EMDX), and SOO Line (SOU) ex-Milwaukee "Bandit" locomotives (above right). All are available in N and HO scale. Also new are N, HO, and O scale decals for Southern Railroad (SOU) wood chip cars and gondolas.

DISCLAIMER ...

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Briefly noted at press time…

. . . New ownership for the Great Scale Model Train Show

John "Scott" Geare and Michael Joseph Militello, owners of Makin' Tracks of Crozet, VA, have purchased the Ellicott City Scale Model Railroad Association and all of the Great Scale Model Train Shows from Howard Zane and Ken Young. Zane will be an active advisor to the new owners, as well as continue as a vendor at the shows he established in 1982. Young will provide training and high-tech support for the event. The new owners have pledged to continue the well-established pricing and exhibitor policies for vendors and show attendees. The next Great Scale Model Train Show will be held June 21-22 at the Maryland State Fairgrounds, 2200 York Road, Timonium, MD. Inquiries should be directed to Scott Geare at jsgeare@yahoo.com.

. . . Athearn

Athearn plans to deliver Genesis HO scale SD45-2 and FP7 locomotives in late December in all new decorating schemes. The SD45-2 will be produced for CSX, Erie Lackawanna, Norfolk Southern, and two Santa Fe schemes: Bicentennial and Kodachrome. The FP7 will be available for Penn Central, Rock Island, and Atlantic Coast Line.

Also coming from Athearn in late December is another run of HO scale GE Dash 9-44CW Ready-to-Roll® diesels in the livery of Santa Fe, British Columbia Railway, Chicago & North Western Burlington Northern, Norfolk Southern and Union Pacific.

Additional production runs of Athearn's PS 50' 5344 boxcars and a Trinity 5161 triple-bay covered hopper have been scheduled for delivery in November. We'll have road names for you next month. Also due in November are both HO and N scale versions of individual Husky Stack cars. Road names will be BNSF, CSX, Trailer Train, TTX, and TTX with new logo. We'll have photos and additional information on all of Athearn's latest products next month. ●

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How prototype locomotives are painted

[illegible]

[illegible]

[illegible]

[illegible] [illegible]

[illegible]

Jim Hediger

[illegible]

[illegible]

[illegible] – Jim Hediger, senior editor

High-side gondolas are unloaded by hand

[illegible]

[illegible]

In the "good old days," [illegible]

[illegible]

[illegible]

[illegible]

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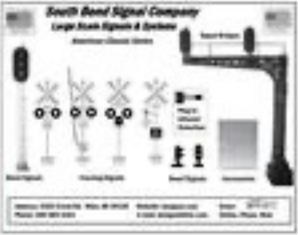
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[illegible]

[illegible]

[illegible]

Rice Harbor electrical connectors

[illegible]

[illegible]

[illegible]

Jim Hediger

Tunnel access

[illegible]

Accessing any 8-foot tunnel [illegible]

[illegible]

[illegible]

[illegible]

Rusty diesel handrails

[illegible]

Rust is a common complaint [illegible]

[illegible]

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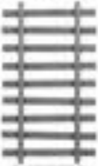

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BY CHRIS GUSS

What was going on last winter?

Cold and snow made a big impact on the motive power of North American railroads

Last winter [illegible]

[illegible]

[illegible]

» Green means GoRail for Norfolk Southern

[illegible]

GE readies BNSF natural gas test unit

BNSF Railway ES44AC No. 5815 undergoes testing at General Electric's Erie, Pa., plant in March. The unit is equipped with GE's NextFuel liquefied natural gas retrofit kit. No. 5815 and NextFuel demonstrator ES44AC No. 3000 should begin testing on BNSF this year. GE's NextFuel system can operate in a natural gas/diesel mode or 100 percent diesel fuel if needed. [illegible]

Paducah & Louisville repainted SD70MACs No. 2012 into a special scheme to commemorate the University of Kentucky's 2012 national college basketball championship. Sister SD70MAC No. 2013 was also repainted in early 2013 to honor the University of Louisville's 2013 win in the same tournament. No. 2012 was built as CSX SD70MAC 728 in 1997. [illegible]

GATX GP15-1 No. 428 has been repainted into Richardson Pioneer's colors prior to shipment to Canada. Richardson Pioneer is Canada's largest privately owned agribusiness and is located primarily in Western Canada. The GP15-1 was originally Chicago & North Western No. 4424, built in June 1976. [illegible]

Siemens wins a $225 million contract to build 32 diesel passenger locomotives for the states of Illinois, California, Michigan, Washington, and Missouri.

The Newest Title from Signature Press

The State Belt: San Francisco's Waterfront Railroad
[illegible]

Price: [illegible]

[illegible]

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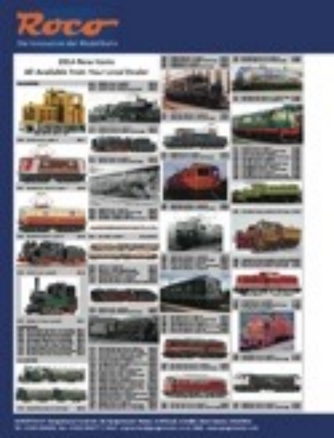
[illegible]



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BY BOB TUZIK

Shaving steel off the rails

North American railroads examine rail milling as possible key to preventing broken rail

[illegible]

[illegible]

[illegible]

» Shells and spalls and cracks, oh my!

[illegible]

[illegible]

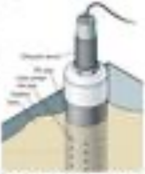
» More on rail management

[illegible]

Finding sand with sound

Michigan Technological University students create new device with tubing and teamwork

Running out of sand is bad. [illegible]



Students created a device to measure sand in a locomotive. [illegible]

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BY BOB JOHNSTON

[illegible]

Tides turn on the 'Ocean'

VIA Rail Canada train could end as early as July; carrier also faces congestion, equipment woes

[illegible]

[illegible]

First class in name only?

So long: wine tastings, morning papers, and dining-car flowers

[illegible]

[illegible]

[illegible]

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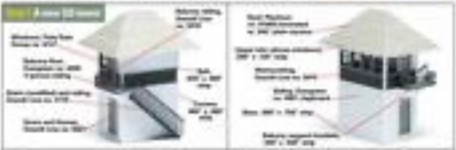


[illegible]

Painting and weathering

To ensure the final color [illegible]

[illegible]

[illegible] wear off.

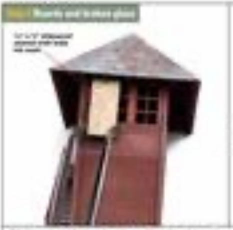
The roof caps

I want the old roofing [illegible]

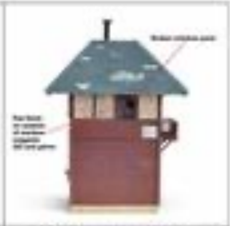
[illegible]

[illegible] over the years.

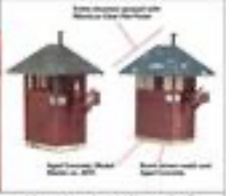
STEP BY STEP



To prevent vandalism, [illegible]



Having all the windows [illegible]



Instead of [illegible] **step 2.** [illegible]

Finally, [illegible]

Harkening back to the 1940's and 50's, an era when freight locomotives were treated with the same reverence as passenger units when it came to brash and eye-catching paint schemes, Kato USA announces four road names of early F-units to recapture this golden age of freight railroading!

These two-packs of EMD F3 locomotives each come with a pair of individually powered, DCC friendly locomotives available in this body style for the first time from Kato USA in over 20 years! Modelers can use these locomotives to pull Kato's [illegible] Inland Freight Train set or outfit them with their existing fleet of freight cars as F3 locomotives for prototypical operations!

Recapture the golden age of freight railroading!

Item #	Description	MSRP
[illegible]	EMD F3A + F3B 2 Locomotive Set - Atlantic Coast Line [illegible] - Non Dynamic Brakes, Steam Generator	$175
[illegible]	EMD F3A + F3A 2 Locomotive Set - Chicago Burlington & Quincy [illegible] - Dynamic Brakes	$175
[illegible]	EMD F3A + F3A 2 Locomotive Set - Rock Island [illegible] - Non Dynamic Brakes, Steam Generator	$175
[illegible]	EMD F3A + F3A 2 Locomotive Set - Chicago & North Western [illegible] - Dynamic Brakes	$175

KATO

[illegible]

[illegible]

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BACK FROM THE DEAD

Mick Walsh drives the amazing recreation of the dramatic 328 Kamm Coupé built for BMW's 1940 Mille Miglia win but destroyed decades ago

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

On Kamm

[illegible]

[illegible]

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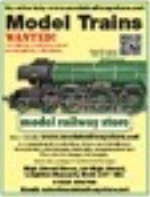
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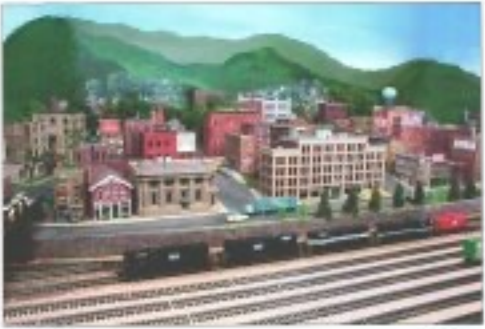
THE SIGNAL BOX
MODEL RAILWAYS
[illegible]

[illegible] OF THIS TYPE ARE THE FINEST CELEBRATION OF THE PIONEERING TALENT THAT BUILT THE ORIGINALS

[illegible]

[illegible]



NORFOLK AND WESTERN

[illegible] Division

[illegible]

A [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

NMRA
CLEVELAND
2014
NATIONAL CONVENTION

[illegible] [illegible]. Three spurs [illegible] around layout [illegible] modeling has been [illegible] years to their point. The layout's basic style is an "around the wall" with [illegible] [illegible]. It [illegible] TCS [illegible] staging [illegible] and a second [illegible] planned. I also have an elevated [illegible] viewing platform.

The design includes [illegible] [illegible] with 48 inch [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] inches [illegible] [illegible] mountain [illegible] [illegible] [illegible] the Appalachian region of southern West Virginia with its [illegible] and mountain [illegible] [illegible]. The Norfolk & Western Railway has [illegible] more than 10 bridges and eight tunnels [illegible] [illegible] across the [illegible] of double-track mainline.

Unlike some model railroads this layout [illegible] [illegible] of any person. Personally, I really enjoy the building/planning stages of the railroad, especially any type of scenery work. [illegible] [illegible] to make each scene unique. Remarks such as "Where did you get that [illegible]?" and "I've got to have one!" from fellow N scalers are always satisfying to hear. Last year's scratchbuilding project was an expanded [illegible] addition to the [illegible] mill, which followed a [illegible] [illegible] article by [illegible]. Once any structure is completed, painting and weathering completes the process of creating that gritty railroad appearance.

One of the scenic highlights of the [illegible] is my version of Bluefield, West Virginia. It's not an exact replica, yet it captures the hub and feel of this scene [illegible] one of the largest coal marshalling yards of its time. Period photos have aided in the construction of [illegible] with some [illegible] modifications.

Like the modern [illegible] of the [illegible], the roster consists of mostly six-axle diesels (SD40s, SD70s, C30-7s, and some Geeps). Along with the usual fleet of coal hoppers, a variety of [illegible], Fox Valley, and Atlas general freight cars can be seen plying the rails between Bluefield and Williamson, West Virginia. Layout control consists of both DC and DCC.

Presently, operations include [illegible] just running trains through the beautiful West Virginia scenery. Due to preparations for the NMRA National Convention in Cleveland this July (as part of the Super [illegible]) operations have been put on the back burner. Future plans for the layout include bi-monthly operating sessions using a car card system. For now the [illegible] [illegible] and [illegible] the [illegible]! ∎

Lever frames, points and signals

[illegible] your railway like the prototype – 5

Having considered the principles of interlocking in last month's article, [illegible] shows how this can be translated into practice using equipment and design software from [illegible].

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

1. [illegible]

[illegible]

2. [illegible]

[illegible]

3. [illegible]

[illegible]

4. [illegible]

[illegible]

5. [illegible]

[illegible]

6. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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[illegible]

[illegible]

[illegible]

[illegible]

These HO scale high performance MagnaLink air brake hoses simulate prototype brake system connections with magnetic glad hands. Installing these small parts is easier if you build a tool to help.

Add magnetic air brake hoses to HO rolling stock

Tiny magnets simulate operating glad-hand connections between cars

By Pelle K. Søeborg • Photos by the author

When I heard that Pacific Western Rail Systems (PWRS) had started manufacturing and selling North American Railcar Corp.'s HO scale high performance MagnaLink air brake hoses (hoses), I thought they looked very cool and highly realistic. I immediately got online and ordered some to equip my rolling stock.

Each package contains 18 pairs of magnetic brake lines and mounting for the brake piping used to mount the new hoses. Some of my freight cars already had a brake pipe and brake hose details, so I just trimmed the original hoses off and glued a new hose to the pipe stubs.

A steady hand

I followed the installation instructions on the PWRS website, www.pacific-western-rail.com, but soon realized that

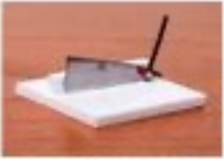


Fig. 1. Mounting jig. Pete made this handy jig from a no. 11 knife blade so the brake hose magnet holds the hose at the proper angle for installation.

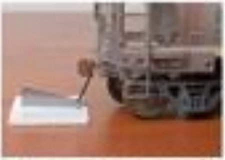


Fig. 2. Installation. With the hose aligned by the jig, Pete adds a drop of cyanoacrylate adhesive and slides the hose end into place against the pipe while the glue sets.

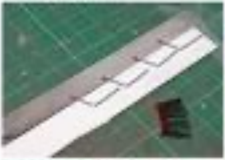


Fig. 3. Subassemblies. Pete has found it's easier to assemble the hose and brake pipes before he installs them. The magnets hold them on a metal file for safekeeping.

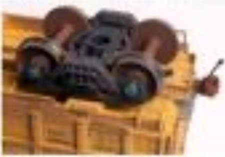


Fig. 4. Installation. The brake pipe and air hose is mounted on the floor next to the coupler box. An extra drop at rear of CA secures the pipe in place.

my hand wasn't steady enough to do such precise work any more.

According to the instructions, you grab the rubber hose with a pair of tweezers, put a dab of gel-type cyanoacrylate adhesive (CA) on the end of the hose, and hold it tightly on the end of the brake pipe.

I had great difficulty in keeping the end of the pipe precisely, and if I succeeded, I still had to hold the hose steady for a minute while the glue cured. This was almost impossible, and I accidentally pulled the hose off many times before the glue had set properly. I also discovered that the magnets were attracted to some of the metal car wheels, which didn't make things easier.

It soon became apparent that I had to find a different technique if the process of applying magnetic brake hoses to my fleet of rolling stock should be completed in the foreseeable future. But after a little thinking I came up with a tool to help.

Hose installation

Figure 1 shows a simple device I made to help make hose mounting easier. It consists of the tip of a no. 11 knife blade glued, sharp edge down, to a styrene pad, with a small strip of square styrene to steady the blade.

The glad hand magnet at the end of the brake hose is attracted to the blade and sticks to it, holding the hose steady until the glue cures. See Fig. 2. This tool works fine for mounting brake hoses on cars that already have brake pipe details.

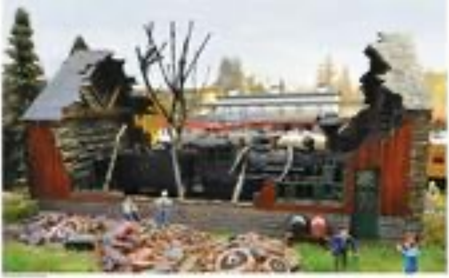
I use a different technique on cars that don't have brake pipe details. As shown in the instructions, I make the brake pipes from the steel wire included in the package. I then attach the brake hoses to the pipes before mounting them on the cars. I do this step on a magnetic file, Fig. 3, so nothing moves after I glue the hoses to the pipes.

After mounting the brake pipes with hoses on the cars, I painted the iron pipe to match the car color. See Fig. 4. I also painted the glad hand magnet at the end of the hose silver. The black brake hoses are made of a glossy material so I gave them a thin coat of Vallejo Matte Varnish to tone down the shiny look. The varnish didn't affect the hoses' flexibility.

I've found that working with CA can easily become a messy affair if you don't pay close attention. On more than one occasion, I got some CA on my fingers without noticing it. When I grabbed a car to work on it, my finger stuck to it and left a nasty fingerprint. Of course, this sort of damage always occurs in the most visible place.

More on ModelRailroader.com

Model Railroader subscribers can watch a video of Pete's [illegible] installing air brake hoses in action at www.ModelRailroader.com.



Fire-damaged enginehouse

A variety of commercial parts were used to make this HO model **Louis Gomes**

[illegible]

Stone walls, foundation and base

[illegible]

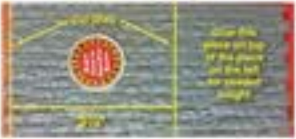
[illegible]

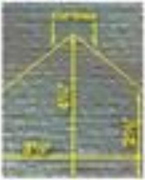
Painting the stone material

[illegible]

Bill of materials

[illegible]


Glue this
piece on top
of the piece
on the left
for needed
height



[illegible]

[illegible]

[illegible]

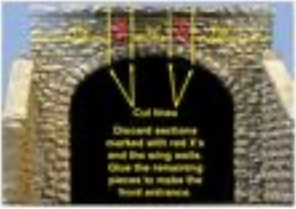
Installing the windows and door

[illegible]

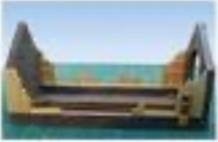
[illegible]

Walls, beams, studs, rafters and roof details

[illegible]


Cut lines
Discard sections
marked with red X's
and the wing walls.
Glue the remaining
pieces to make the
front entrance.

Fire-damaged enginehouse



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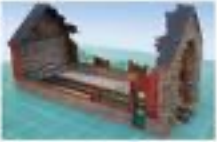
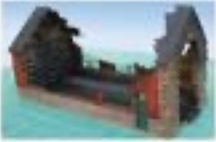
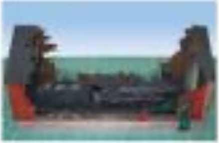


[illegible]





[illegible]

Starting the fire

[illegible]

[illegible]

Finishing the scene

[illegible]

[illegible]

[illegible]

Added details to the scene

[illegible]

[illegible]

N&W J, HO
IN STORES NOW
N&W Y6b, HO
IN STORES NOW
Dreyfuss Hudson, HO
IN STORES NOW
ATSF 4-6-4, HO
IN STORES NOW
N SCALE
E-UNITS
ARRIVING NOW
SD7 / 9, HO
IN STORES NOW
EMD SWITCHERS, HO
IN STORES NOW
PRR J1, HO
IN STORES NOW
C&O T-1, HO
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NYC NIAGARA, HO
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PART 2
INTERMEDIATE

[illegible]

Enhance your Bachmann 4-6-0

Part 2: Installing an aftermarket sound board

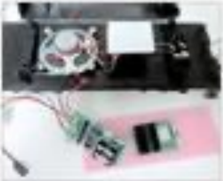
by [illegible]

[illegible]

Sound board similarities

[illegible]

[illegible]



[illegible]

[illegible]

Removing the stock Bachmann sound board

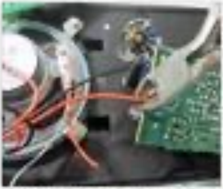
[illegible]

[illegible]

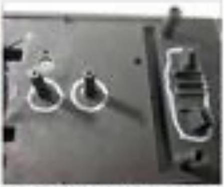
[illegible]

Mounting the boards to the tender floor

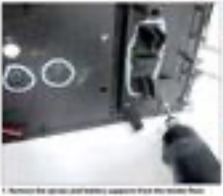
[illegible]



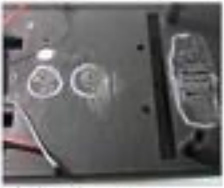
5. Cut the wires from the "sound" leads and the two wires on the speaker close to the sound board.



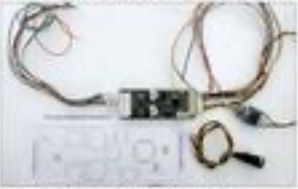
6. Remove the two plastic sprues that hold the old sound board in place.



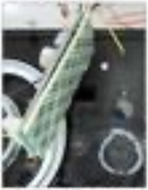
7. Remove the sprues and battery supports from the inside floor.



8. A flat surface remains for mounting the boards.



9. The FX board and wiring harnesses are shown, along with the socket diagram.



10. Apply double-sided foam tape to the bottom of the FX board.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Wiring it all up

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

16. The green wire from C1.1 on the PH goes to the "Track" terminal with the black wire on the socket.

17. The second green wire C1.2 connects to the track socket with the red wire.

18. Connect the gray wire from the PH to the black wire of the "Motor" terminal on the socket, and the orange wire to the red.

19. Plug the auxiliary output wiring harness into the receiver, with the black wire next to the edge.

20. Connect the light blue wire on the Revo to the dark blue wire C3.5 on the PH.

from the rear PnP socket to the PH, using the two green wires from C1.1 and C1.2 on the PH. Starting with the green wire at C1.1, thread it between the two boards to the rear PnP socket "Track" terminal (the one with the black wire on it at the right in photo 16), and tighten down the screw. I give a little tug on the wires after tightening the screw to make certain both wires are firmly connected. The other green wire from C1.2 connects to the socket with the red wire, as seen in photo 17. This allows the track battery to power both the Revo and the sound board without the need for a separate power source exclusively for sound.

Next, connect the motor outputs C2.6 and C2.7 wires on the PH to the "Motor" terminals on the socket. These wires are gray and orange. I connect the gray wire to the black wire on the socket and the orange wire to the red wire, as seen in photo 18.

If you plan on operating in the fully automatic mode, this completes the wiring and you can skip the next section on connecting the sound triggers. My preference is to use the sound triggers to get the specific sounds I want exactly when I want them. While in automatic mode, some sounds occur at times when you don't use them because they are triggered by voltage changes or speed changes.

Sound trigger connections

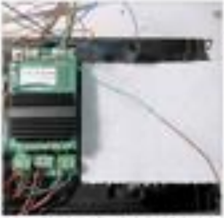
With the basic wiring completed, you will make the connections to the sound triggers for the whistle, bell, coupler clank, and blowdown. Remember you can choose any of the available sounds you want to trigger.

The first task is to plug the auxiliary wiring harness that came with the Revo receiver into the socket, as shown in photo 19. Next, fit the receiver inside the [illegible] and press it back into place on the Revo socket.

The first trigger to be installed is the whistle. It will be controlled by pressing the "1" button on the transmitter. Solder or crimp connect the light blue wire on the receiver harness to the dark blue wire C3.5 on the PH harness (photo 20). If soldering, seal the bare joints with liquid tape or shrink tubing and set it aside.

The bell will be controlled using the "2" button on the transmitter by connecting the green wire on the receiver harness to the brown wire C2.6 on the PH harness (photo 21). Coupler clank will be controlled by button "4" on the transmitter; connect the yellow wire on the receiver to the yellow wire C2.5 on the PH (photo 22). The last triggerable sound, the blowdown, will be activated by the "6" button on the transmitter. Connect the orange wire on the receiver harness to the violet wire C2.4 on the PH. When the liquid tape is dry, tape all the wires to keep them together (photo 23). The brown, red, and black wires remaining on the Revo harness are not used and can be bundled with the connected trigger wires and taped together.

This completes the wiring of the trigger. The final step is to tape the sides of the volume switch to prevent shorts, then place it on the rear floor of the tender (photo 24). I normally like to drill a hole and mount the volume switch to the floor of the tender floor, but it is not necessary. If you will be using the [illegible] generating socket, you may tape it and put it on the tender floor as well, or drill a hole for it. This completes the wiring



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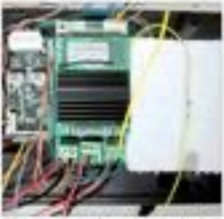

[illegible]

Testing and operation

[illegible]

[illegible]

[illegible]

[illegible]

Online extras

[illegible]

Final thoughts

[illegible]

[illegible] describes the [illegible] Railroad, a [illegible] project by **[illegible]**
Photographs by [illegible]

An American dream

[illegible]

[illegible]

[illegible]

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[illegible]

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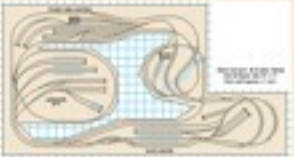

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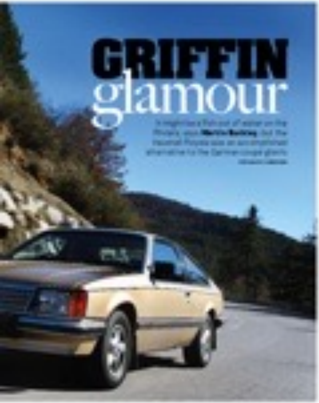
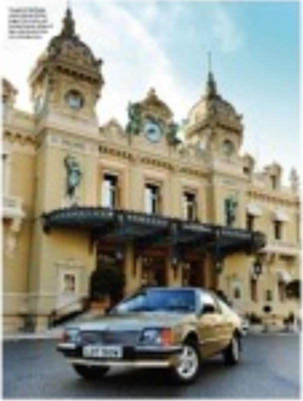


GRIFFIN glamour

It might be a fish out of water on the Riviera, says **Martin Buckley**, but the Vauxhall Royale was an accomplished alternative to the German coupé giants

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

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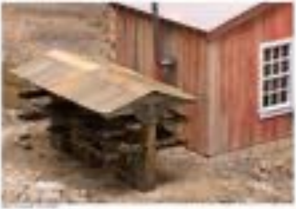
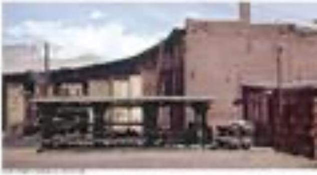


Scratchbuilding a boiler flue storage rack

A sturdy addition to a steam engine servicing facility/**Tom Troughton**

[illegible]



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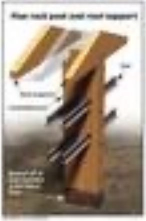
Pipe rack post and roof support

[illegible]

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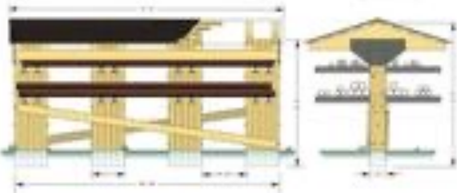
Pipe rack [illegible] Drawn by [illegible]



Scratchbuilding a boiler flue storage rack

[illegible]

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[illegible]

[illegible] investigates another aspect of the State Railways of Thailand as part of a continuing effort to model recent operations in [illegible]

Diesel shunters

Second generation motive power soon to be history

T[illegible]

[illegible]

[illegible]

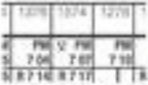
END OF THE LINE FOR METRO-NORTH BAR CARS

The Last Call

BY DAVID [illegible] [illegible]

[illegible]

[illegible]



	1278	1274	1279	
	PM	PM	PM	
	7 06	7 07	7 10	
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[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] “Last call!” [illegible] Fairfield [illegible]

[illegible] Stamford [illegible] New Haven.

[illegible] New Haven [illegible] 8667 [illegible] bar service, it seemed that these [illegible] now no longer had a purpose in the 21st century.

What does the future hold in store for on-board bartending service? The [illegible] designs have been discussed for a new generation of M-8 "café cars," where a small bar would be located in the rear of a handful of cars, with it and its seating surrounding it. Other plans have a much different look, with the bar [illegible] to the side of one of the entrance vestibules, with leaning tables, and window seats surrounding the middle of the car [illegible] small tables with seats on either side.

Whatever plan actually depends entirely on the Connecticut Department of Transportation, which controls the funding and contracts for the new M-8 railcars. Until then, the commuter rail bar car will have gone the way of the [illegible] like steam engines and the [illegible] of the past, a [illegible] from another era. Here's to an optimistic future.

Bottoms up. ◼

LEFT: Strangers on a train become family for one more night aboard the last run of Metro-North's bar cars on May 9, 2014. **BELOW:** The bartender accepts the [illegible] [illegible] [illegible] **RIGHT/[illegible]:** [illegible] friendly atmosphere [illegible] [illegible]

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1. Rockingham Junction is a signature scene on Bob Gurley's HO scale Boston & Maine. Bob scratchbuilt the station and many other structures on the layout

Steam-to-diesel on the BOSTON & MAINE

Bob Gurley's 22 x 50 foot HO scale layout models the transition era in northern New England

By Mike Confalone • Photos by the author

M[illegible]

[illegible]

[illegible]

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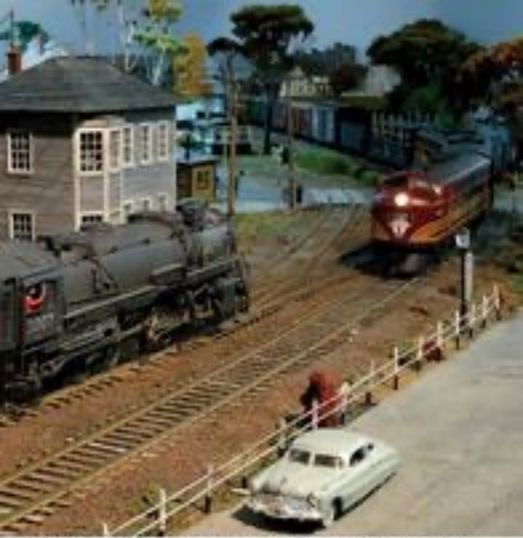
[illegible]

Building the B&M

[illegible]

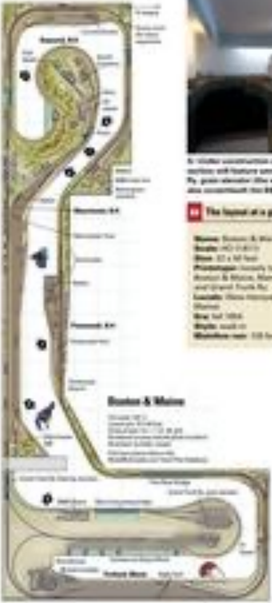


[illegible]

[illegible]

Realistic scenery

[illegible]



A: Under construction at the time of this writing, the Portland, Maine section will feature several large industries. The scratchbuilt Grand Trunk Ry. grain elevator (the white structure in the center) is taking shape. Bob also scratchbuilt the B&M [illegible] building on the right.

The layout at a glance

Name: Boston & Maine
Scale: HO (1:87.1)
Size: 22 x 50 feet
Prototype: loosely based on Boston & Maine, Maine Central, and Grand Trunk Ry.
Locale: New Hampshire and Maine
Era: fall 1954
Style: walk-in
Mainline run: 118 feet
Minimum radius: 24"
Maximum grade: less than 1 percent
Height: 52"
Roadbed: ½" cork
Track: Shinohara code 70 and code 83 flextrack
Scenery: plaster over screen
Backdrop: painted drywall with some photo backdrops
Control: Digitrax DCC

model railroading pioneer John Allen as his primary influence.

Bob starts scenery work by making basic landforms from plaster over screen wire. After letting the plaster dry, he paints it with a coat of earth-tone latex paint. Then he applies ground cover using Woodland Scenics turf as well as real dirt. All the paved roads are made with [illegible] compounds.

Most of the trees on the layout are made of sedum, a perennial plant that Bob's wife, Claudette, grows in their yard. Once dried, the plant [illegible] makes realistic-looking HO scale tree armatures. After painting the armatures, Bob applies Woodland Scenics foliage in autumn colors. For a slightly different look, Bob also uses dried pieces of [illegible] for some tree armatures.

He models water using Envirotex Lite, a two-part epoxy. Before applying the epoxy he paints the streambeds with dark colors to simulate depth and adds details such as rocks and logs.

4. Surrounded by colorful fall foliage, Boston & Maine GP7 no. [illegible] leads a local along the Portsmouth Branch. Bob made the armatures for his realistic trees from dried [illegible] bush and sedum.

Scratchbuilt structures

There are more than [illegible] scratchbuilt structures on the layout and many more that are kitbashed from various materials. One notable structure is the car house in Manchester, which is a replica of a model originally built by John Allen.

Bob has a passion for scratchbuilding model models of structures based on the prototype B&M. The first scratchbuilt structure on the layout was the three-stall roundhouse at Portsmouth. The largest structure on the layout will be the Grand Trunk Ry. grain elevator in Portland. Other key structures include passenger stations at Manchester, Portsmouth, and Rockingham Junction.

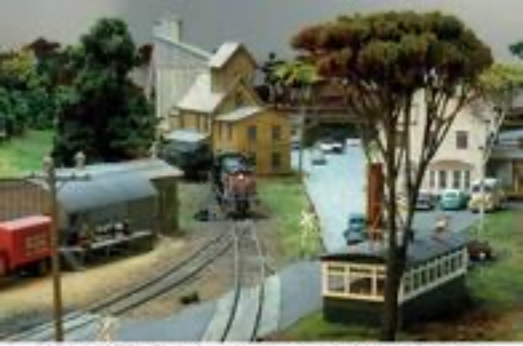
The crossing of the Manchester to Portsmouth Branch and the B&M main line to Portland, Rockingham Junction is a signature scene on the layout. It's based on a prototypical location near Newfields, N.H. Another favorite scene on Bob's is the branch line that runs through Raymond, N.H., and [illegible] of the layout's peninsulas. Along with rural New England scenery, this area features a concentration of scratchbuilt structures, including a coal and feed dealer, and a [illegible].

5. A Manchester Locomotive Works class [illegible] 4-6-0 B&M no. [illegible], switches the mill yard area in North Manchester. For the backdrop, Bob used photos of the prototype mill buildings that still stand in Manchester, N.H.

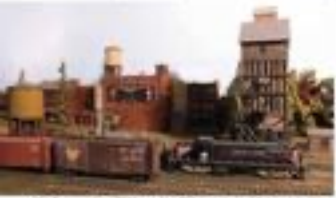
To add depth to the Manchester mill scene, Bob used a high-resolution photo of prototype mill buildings along the backdrop. Bob plans to add photo backdrops to other scenes in [illegible].

Sharing the railroad

Although the layout is designed for point-to-point operations, the main line is a continuous run. This is especially helpful when Bob hosts visitors.



8. At Raymond, N.H., B&M no. 1536 drops a hopper at the coal dealer across the street from the Wood's Creamery. With their work done, the engine crew will go for lunch at Red's Diner seen in the right foreground of the photo.



9. At Portsmouth, the B&M's only blue RS-3 works the yard. Bob scratchbuilt the wood coaling tower for the yard's engine terminal.

Meet Bob Gurley

A carpenter by trade, Bob Gurley lives in Goffstown, N.H., with his wife, Claudette. They have five children and nine grandchildren. In addition to model railroading, Bob enjoys camping, kayaking, and snowmobiling.

Each year Bob participates in the New Hampshire Model Train Fall Showcase, a self-guided tour of local model railroads. During the event, Bob opens his layout to the public. Despite the tight confines of [illegible], he estimates that nearly 100 enthusiastic visitors tour the B&M throughout the day.

Bob doesn't host formal operating sessions, but this may change as the layout nears completion. He has plenty of modeling tasks to keep him busy on the B&M as work on the Portland, Maine, expansion continues. Additional waterfront tracks, roads, structures, and scenery still need to be developed.

Whether building models or running trains, model railroading has given Bob a lifetime of enjoyment and will continue to do so for years to come.

Author and photographer Mike Confalone's HO scale Allagash Ry. was featured in Model Railroad Planning 2012.

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A short introduction to

Weathering steam-era freight cars

– By Charlie Duckworth

Photos by the author

Easy weathering techniques that make you look like a pro ...

Reader Feedback
click here

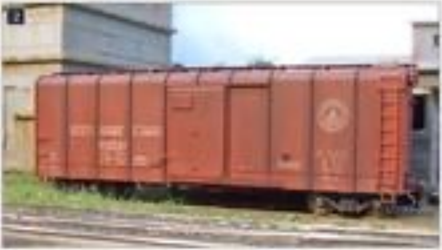
1. A string of weathered freight cars rolls past a stock yard. Charlie Duckworth describes the techniques he used to weather them in this article.

One of my favorite aspects of the model railroad hobby is weathering rolling stock, locomotives, and buildings. Whether it's a plastic model in the out-of-the-box factory paint, or a resin model I've just painted and decaled, it just doesn't look right until I've taken a few steps to make it look like it's been in service. Here's how I weather my freight cars.

I always work from a photograph of a car to help me stay within a weathering boundary. It's easy to get carried away and find you've over weathered a car. My favorite source is the many period freight car photos in railroad historical society magazines, websites (lariverrailroads.com/freight_car.html), or books such as "Railway Prototype Cyclopedia," "Refrigerator Car Color Guide" by Gene Green, or "The Postwar Freight Car Fleet" by Larry Kline and Ted Culotta.

ExactRail's B&O wagon top boxcar

2. This began with an Exact Rail B&O M53 boxcar. This model has its original factory paint scheme. To age the car, I sprayed it lightly with Dullcote mixed with a few drops of boxcar red and black. This does a couple of things to the model: 1) it blends the starkness of the white lettering in with the car, and 2) the flat finish gives the surface some "tooth" for using dry pigments and pencils. After the Dullcote dried, I used brown and black MIG pigments along the car's vertical ribs where



industrial dust and coal smoke naturally collect. MIG pigments have an adhesive ground-in with the colored pigments, and they won't come off during normal handling. I then used an old paint brush to apply some black pigment underneath the running board, where coal dust would collect. Finally, I used a white pencil to add the switch foreman's or conductor's switching instructions.

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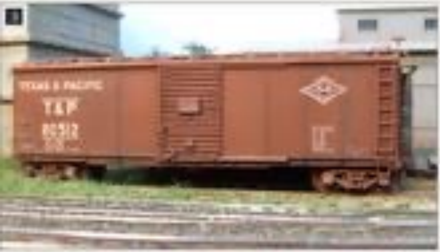
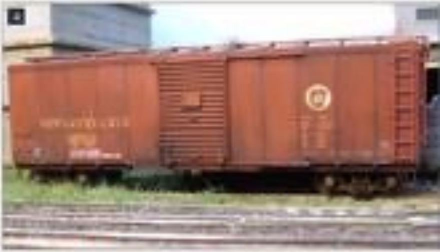


Westerfield rebuilt Texas & Pacific boxcar

3. As with the B&O wagon top car, this T&P model was finished using MIG pigments. I dipped a small brush in the brown pigment, and ran it vertically over the seams. In addition to the brown, a "mid-east dust" pigment was used to weather the trucks and lower body ends. The final step is to use some of the black to weather around the running boards where soot and grime collects. Go lightly on using the MIG pigments – they don't come off easily as chalk pigments do.



Funaro & Camerlengo Pennsylvania X26c rebuild boxcar

4. I wanted to show this car in heavy use from a Northeast industrial area, so I painted it an oxide red, and decaled it using Jerry Glow's jerryglow/decals/full.html decal set. After the decals were dry, I weathered the vertical seams and the lower panels with black oil paint. The area below the car sides was given more black oils to increase the shadows and add dirt and grime where they naturally collect.

PENNSYLVANIA

Reweighs

5. Due to wear on the freight cars and changes made during shoppings, AAR Car Service Rule 11 mandated that new composite wood and steel underframe and all steel boxcars were to be reweighed after the first 15 months in service, with subsequent reweighing every 48 months. New open-top cars and covered hoppers were reweighed after the first 30 months in service, and every 30 months for subsequent light weighing. New refrigerator cars, all-steel flatcars, all-steel house and steel stock cars were to be light-weighed 30 months after the initial weighing, and 48 months for all subsequent weighing. (from the January 1956 "ORER.")

The rule also reads, in section F, paragraph 30, "When cars are re-stenciled after re-weighing, all old stenciling to be renewed must be obliterated with quick-drying paint. It will be necessary only to re-new all light-weight numerals, station symbol, date (month, year), and load limit numerals.....The capacity numerals and letters 'CAPY,' 'LD LMT,' and 'LT WT' when indistinct, must be renewed....."

To show this car was recently weighed, I added a patch of freight car-red paint over the original load-limit and light-weight stenciling and re-decaled newer information. "P283" is the code for weigh station on the Pennsylvania Railroad ,and "1-50" was the month and year the car was weighed.

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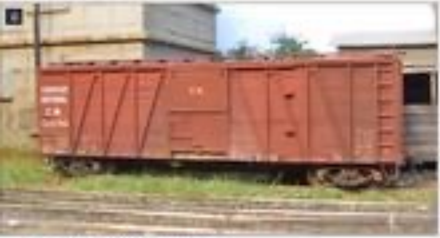
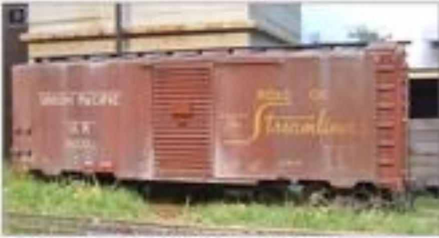


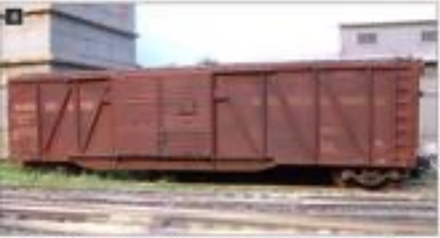
Accurail's CN boxcar

6. This "out-of-the-box" Accurail Canadian National boxcar illustrates where I used a small amount of white oil paint around the lower part of the doors to denote where flour bags broke and spilled during transit, or while loading or unloading. You see this on a few freight cars in a consist, and it adds a little variety to a cut of cars. I upgraded the model to match my resin cars by replacing the cast-on grab irons and ladders with wire and plastic ones.



Intermountain Union Pacific 1937 boxcar

7. Here's another example of a Union Pacific car that's been loaded around a flour mill. As with the PRR boxcar, a small red patch was added, and a new light weight, weighing station and date were added. The car was weathered using white oil paint to show heavy loading around a flour mill. After the paint was dry, I gave the car a light coat of Dullcote.

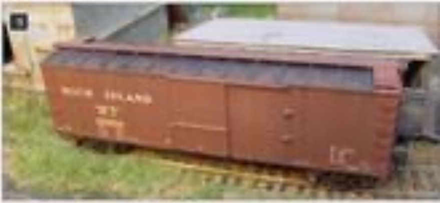


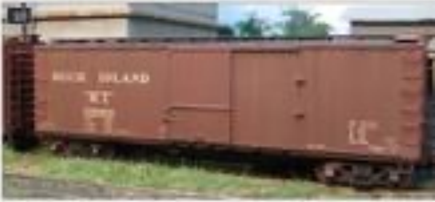
Rocket Express 50' automobile boxcar

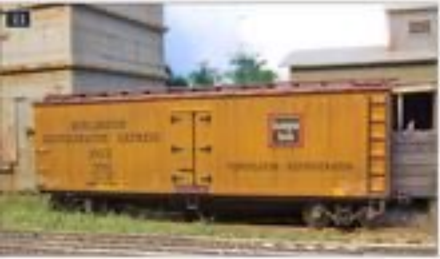
8. This RI car was finished using Dullcote with a couple of drops of boxcar red added as a tint. The car was then given a light dusting of brown pigments, and sprayed again with a light coat of Dullcote. At some point in its career the car was removed from automobile service, so the horizontal boxcar red patch on the right side of the car that denotes the original 'AUTOMOBILE' lettering was painted-out by the Rock Island RIP track workers.

Accurail's Rock Island USRA boxcar

9-10. Accurail did a great job of capturing the lettering on this car. In addition to weathering the car, I removed all the cast-on grab irons and replaced them with wire ones. I then airbrushed the handhold areas with a BCR that matched the factory paint. Next was to over-spray the car with a light Dullcote mixed with a few drops of black and dust to tone-down the lettering. I then used black and light brown colored pencils to lightly highlight some of the vertical boards on the sides and doors for additional weathering. The prototype roof was painted with black roof cement, so I used a mix of black and white oil paints to denote a weathered roof with some of the roof cement flaking off.







Accurail wood reefer

11. This model was repainted and decaled with the Microscale decal set for BFEX reefers. The molded-on grab irons and ladders were replaced with wire and plastic ones. The car was finished by over-spraying it with a Dullcote mixed with a couple of drops of black and brown to tone down the sides. After the Dullcote was dry a new #11 X-Acto blade was used to remove some of the Dullcote mixture around the grab irons and ladders, where trainmen would have climbed on the car. A few individual boards were also picked out with the X-Acto blade to age the car sides more.

White and yellow pencils

The best white pencil for adding chalk marks is made by Prismacolor; the number on the pencil is PC938. To be honest, the yellow pencils don't do a great job, and you could skip them all together. The important thing is to weather some of the white pencil marks to age them, and have some contrast to new marks. I use white and yellow pencils where a conductor, engine foreman, carman made chalk marks on a steam-era car. Look at vintage freight car photos to see the variety of numbers and letters used by different railroads. Put one on, and gently rub it off, then add another next to it, to show the aging process.

Oil paints

I use mostly black and brown to denote oil and grease. Mix a little with mineral spirits and dab around the journal boxes to show there the carman added oil. I also put some on the door latches and along the lower door guide where a carman would have greased these areas.

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Conclusion

I hope this short introduction into weathering inspires you to get started on your fleet. The techniques I use are very easy, they just take a bit of practice. In no time at all you can weather your cars like a pro. So jump in and get started. ☒

Reader Feedback
(click here)

Charlie Duckworth retired from Union Pacific after 38 years. He started with the Missouri Pacific in 1974. Charlie has sent ten articles for Mainline Modeler, Model Railroader and Model Railroad Hobbyist. He has a Yahoo Group (Mopac Bagnell Branch) where you can subscribe and see photos of his layout and read about his latest resin freight car or building additions.

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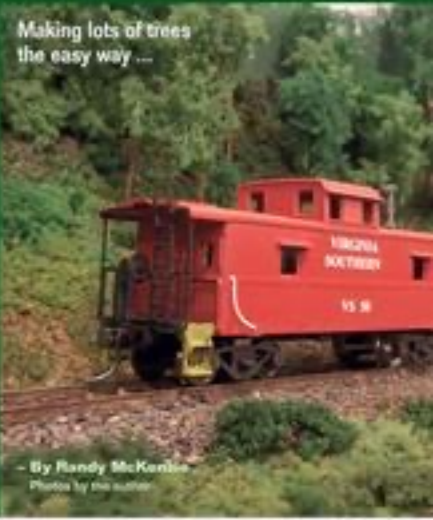

VIRGINIA SOUTHERN
VS 30

Making lots of trees the easy way ...

– By Randy McKenzie

Photos by the author

Covering a layout with thousands of trees normally comes down to very few choices: Puff balls, kits, or Super Trees. I needed a better option for my HO triple-deck Virginia Southern. My solution is easy, fast, and cheap. I call them "Secondary trees," meaning they are not as detailed as Super Trees, but give a transition between front-row trees and puff balls in the distance.

Let's get started.

1. Virginia Southern caboose VS 50 tags along at the end of an empty coal train as it heads through the lush green forests of Virginia.

▶ Reader Feedback
click here

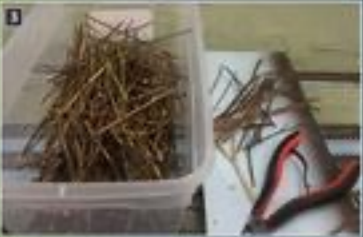
STEP 1: Collecting the materials

Materials needed

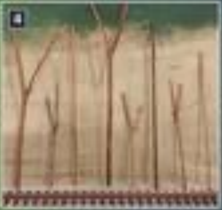
- Queen Anne's Lace or any other dried weed stem
- Side cutters
- Bailing twine or small sisal twine.
- Foam blocks
- Fine ground foam, various colors
- Spray paint, Kelly green
- Rubber cement or Aleene's Tacky Glue

2. Queen Anne's lace forms the base of the trees. The great thing is, it's free. Just go out and collect it. Allow it to dry about two weeks. Begin by clipping off the head of the weed.

STEP 2: Preparing the materials



3. Start clipping the weed stem into trunks of various lengths. I use a container to hold the trunks until I am ready to use them.



4. Here are a selection of trunks I cut to various lengths.

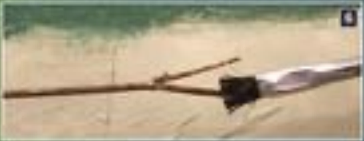
The entire weed stem can be used, the forked branch as well as the straight trunk.

STEP 2: Preparing the materials Continued ...

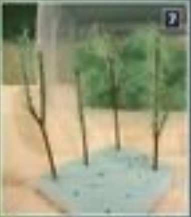
5. Prepare the twine by cutting it into lengths between ¼" to ¾" long for N and HO scale. I cut and mix the random lengths in a plastic container. The twine will normally unwind when it is cut: if not, roll it between your fingers to get the individual strands.

The key is to have a random mix of twine lengths. This creates the uneven branch structure of the tree.

STEP 3: Gluing the twine to the trunks

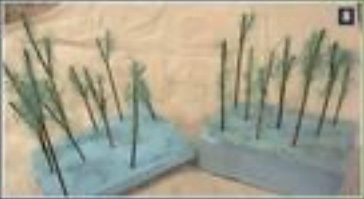


6. Give the top section of trunk a coat of rubber cement. I coat about two-thirds of the stem. Tacky Glue can also be used.



7. This is what the trees should look like with the twine applied to the trunks. Sprinkle the cut twine over the wet glue. I work in batches of six to 15 trees. I use a foam block as a palette to hold the trunks between steps. This also makes an easy way to carry the trees to the layout for planting. At this point they don't look great, but the next step is the MAGIC.

STEP 3: Gluing the twine to the trunks Continued ...



8. Here are a group of trees ready for foam.

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STEP 4: Adding the foam

9. These are the adhesives I use: Spray adhesive, 3M General Purpose 45, Rubber cement or Tacky Glue.

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The O Scale Resource

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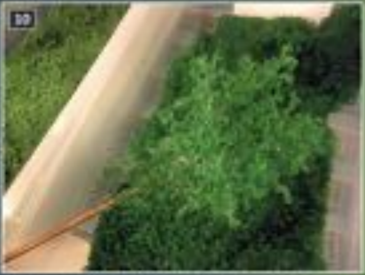
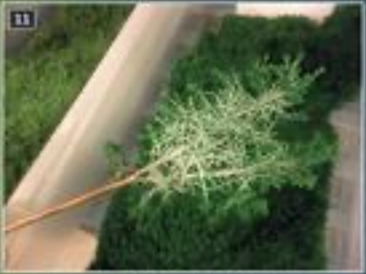
STEP 4: Adding the foam Continued ...



10. Give the trunk and twine a light coat of green paint. Next spray adhesive, until the twine is covered. With practice, you know how much adhesive is required. Not enough, and the foliage will be too thin; too much, and it will look more like a green corn dog.

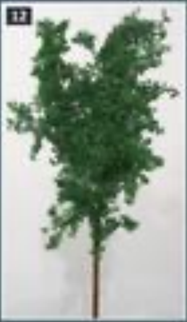
Sprinkle green ground foam onto the glue. Tap the tree to knock off the loose material. If the twine is still exposed, sprinkle on more.

STEP 4: Adding the foam Continued ...



11. Rotate the trunk, and sprinkle foam on the other side. Repeat the steps in [10].

STEP 4: Adding the foam Continued ...

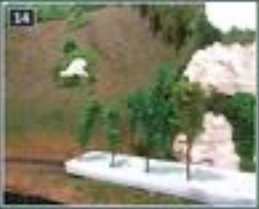


12. You now have a tree ... With materials ready, you should be able to turn out a tree in about 30 to 45 seconds. I use several colors of foam, and plant the trees in random mixes of colors and sizes.

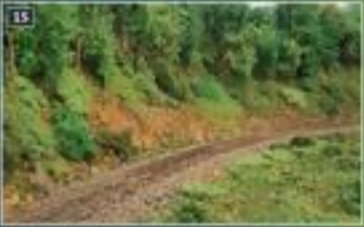
STEP 5: Planting the trees

13. Start in the back and work your way forward. Random spacing along with varying heights will create a very natural-looking mountain of trees. Secure the trunk of the tree in place with white glue.

STEP 5: Planting the trees Continued ...



14. A group of trees waiting to be planted near Crabtree Tipple on my layout.



15. A finished section of my layout filled with the fast and easy trees. ☐

Randy McKenzie cannot remember a time he didn't love trains. After building his home in 2003, he started his Virginia Southern in June 2004 and filled his 32x38 area with a triple-deck HO layout. The VS is a proto-freelance merger of the Clinchfield and Interstate Railroads, modeling Elkhorn City KY to Kingsport TN.

Randy works as an electronic communications technician for the Virginia State Police, serves as a Cub Master and Assistant Scout Master in the Boy Scout program, enjoys fishing, camping, and amateur radio. He is married with two children who also share in building the layout.

You can see more of the Virginia Southern Model Railroad on Facebook (facebook.com/groups/485922974770191/).

Reader Feedback
click here

Through the railway room door

Portwen and Hope

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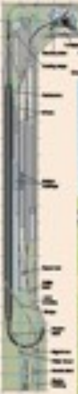

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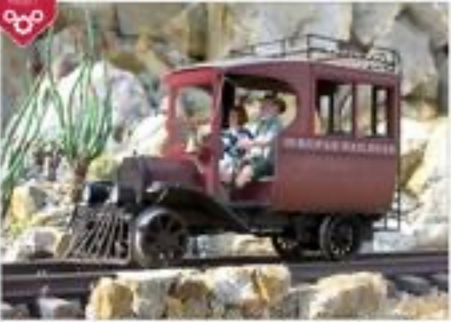
ADVANCED PROJECT



[illegible]

Creating a radio-controlled railbus

Scratchbuilding the "Tin Lizard"

By Ray H. Dunakin III — San Diego, California — [illegible]

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Online extras

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Photographs by the author

Neustadt, Mittelwald, and Hochberg

The story of a long-term modelling project – Part 2

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[illegible]

RETURN OF THE KING

Mick Walsh makes a pilgrimage back to the factory where the Bugatti EB110 was built to investigate the 1990s sensation and meet the key players involved with its innovative design

[illegible]

THERE'S NOTHING LIKE DRIVING GREAT CARS ON THE ROADS WHERE THEY WERE DEVELOPED

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RAILS OF SHEFFIELD

WANTED

CASH OR PART EXCHANGE

[illegible]

BONNEY

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märklin FLEISCHMANN Rivarossi

Lima Jouef

KATO

MINITRIX TRIX

Lenz

BRAWA

Electrotren PIKO ARNOLD

MECCANO

EXLEY

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Did you know?

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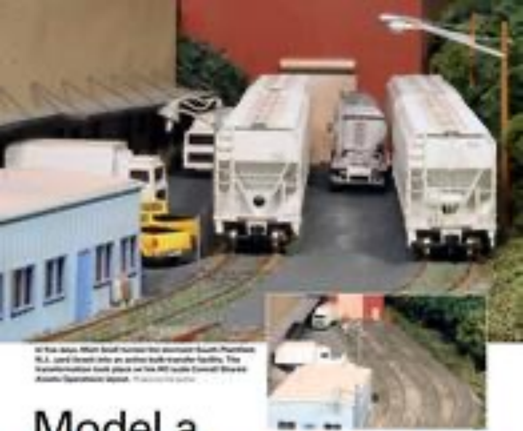


In five days, Matt Snell turned the dormant South Plainfield, N.J., yard (inset) into an active bulk-transfer facility. The transformation took place on his HO scale Conrail Shared Assets Operations layout. Photos by the author

Model a **BULK TRANSFER FACILITY** in an existing yard

How to turn a dormant scene into a new industry in five days

By Matt Snell • Photos by the author

It's been said that model railroads are never finished. We build something only to tear it down later. While this may be something of an exaggeration, it's true that we often tweak what we have on our layouts, changing anything from portions of individual scenes to entire sections of our layout.

Such was the case on my Central New Jersey Division. When originally constructed, the layout was set in the 1980s. That was morphed into the 1990s, and now I model Conrail Shared Assets-era operations jointly owned by Norfolk Southern and CSX Transportation.

After 30 years of running my layout, it was time for a few changes to keep things interesting. I looked at the changes on the prototype and thought of ways I could implement them on my model railroad. One area that had changed was South Plainfield, N.J.

The yard there went from a home for locals that served South Plainfield and North Amboy (N.J.) on the ex-Lehigh Valley Perth Amboy Branch and the nearby Lehigh Line to a period of use as a maintenance-of-way yard and finally, finding new life as a bulk transfer facility that is now lined with covered hoppers. It has become an industry instead of a storage facility.

Transforming South Plainfield yard would give my crews an additional industry to switch while reflecting only recent changes to the layout rather than major reconstruction. Let's take a look at how this simple five-day project changed a dormant freight yard into an active industry.

Matt Snell is a prolific modeler, author and photographer who has had more than 40 articles published covering the kitbashing and detailing techniques he uses to keep his HO scale Central New Jersey Division up to date.

DAY ONE: Track removal

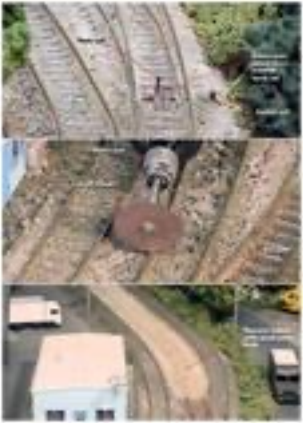
The first step in transforming the freight yard into a transload facility was making room for the road. Rather than tear out the entire yard and rebuild it, I followed a common prototype practice in industrial areas of removing the siding but leaving the turnouts. This made the reconstruction process faster and easier.

To render the turnout inoperable and ensure electrical reliability, I drove a track nail through the ties at the switch rod and soldered the area where the point touches the stock rail.

Next, I removed the stubby yard track. I started by using a cut-off wheel in a motor tool to sever the yard track from the turnout at the rail joints. Wear eye protection when using a cut-off wheel in a motor tool.

Removing the track in one piece was going to be difficult with track nails and caulk holding it down, so I used a pair of rail nippers to cut each tie in half. This allowed me to remove each rail individually, which proved to be faster and easier.

With the rails and ties gone, I used a small putty knife to remove the ballast, being careful not to damage the roadbed. Now the South Plainfield yard was ready for redevelopment.



DAY TWO: Preparing for pavement

[illegible]

[illegible]

DAY THREE: Pouring the road

[illegible]

DAY THREE: Pouring the road (cont'd)

Once that cured, I poured a second layer of the road-making plaster. The thickness of the road varied in height from the top of the ties at the lower end of the yard to railhead height at the main crossing.

While pouring the road, I took another page from the prototype, allowing the pavement to cover the edges of the cut off rails. On the prototype, contractors will often cover the edges of cut-off rails, removing the safety hazard of the exposed ends.

DAY FOUR: Painting the road

I let the Smooth-It cure overnight before painting the road. To capture the look of faded, sun-bleached asphalt, I mixed Woodland Scenics Asphalt Top Coat with Americana brand Titanium White acrylic craft paint, available a craft supply stores.

I painted the Smooth-It with wide, soft-bristled paint brushes to reduce the chances of leaving brush strokes. Then I applied a second coat of brown paint to the crossing planks to touch up the edges where the pavement meets the crossing.

DAY FIVE: Touch-up and final details

I spent the last day of the project doing touch-up work. Pouring a plaster road adjacent to a track can be difficult, and often there's some plaster that seeps right up to the ties. This project was no exception, so I painted the tie ends with a mixture of brown and black paint and did some touch-up ballasting.

Since this was no longer an active yard but an industrial facility, I applied a light sprinkling of ground foam to simulate weeds along each track. I put a heavier application near the turnout with the cut off rails to further help blend it into the scenery.

I completed the scene by adding a tractor with a bulk trailer near the back of the facility. I was unable to locate a trailer like those at the prototype, but the Herpa Walking bulk feed trailer (no. [illegible]) is a reasonable stand-in.

The South Plainfield bulk transfer facility will provide a nice challenge for the local crews operating out of Manville. A quick, easy, and inexpensive project like this may benefit your own layout, bring new operational interest to an otherwise dormant and unused scene.

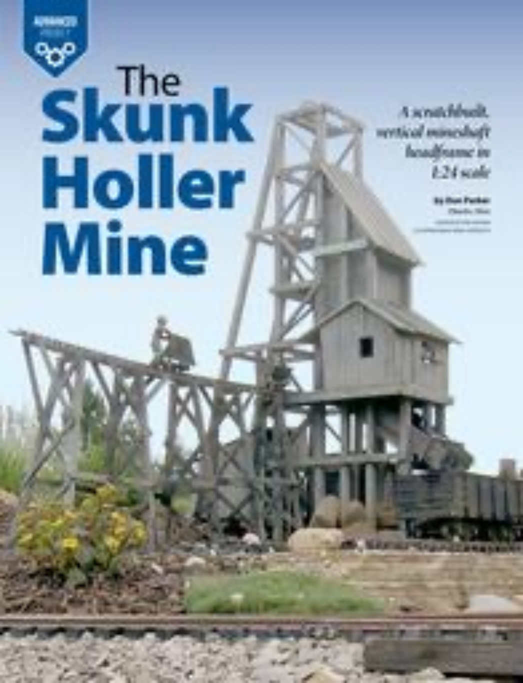
Better yet, no major demolition was required. ■

ADVANCED PROJECT

The Skunk Holler Mine

A scratchbuilt, vertical mineshaft headframe in 1:24 scale

by Dan Parker



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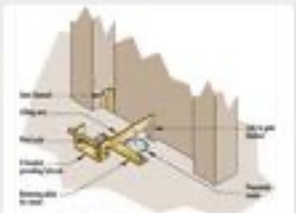

Figure 1 — Gate lifting mechanism

[illegible]

Construction

[illegible]

The storage bin and control room

[illegible]

The cage, tailings trestle and mine entrance

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Hoist house, winch motor, and boiler

[illegible]

[illegible]

[illegible]

[illegible]

Finishing touches

[illegible]

PRACTICAL BRM

HOW TO

PAINT YOUR MODEL

Nigel Burkin shares his top tips for achieving better results when repainting models.

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EXPERT TIP

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10 TIPS FOR BETTER PAINTING

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PRACTICAL BRM

PRACTICE MAKES PERFECT!

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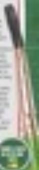

PRACTICE MAKES PERFECT

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EXPERT TIP

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9 [illegible]

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10 [illegible]

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LIKE THIS?

[illegible]

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SIX-AXLE short line

A Pennsylvania short line dodges commuter trains, connects to two other short lines, and runs six-axle units in Rio Grande colors

Story and photos by Dale W. Woodland

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[illegible]

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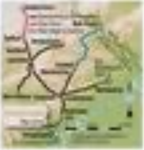

[illegible]

FROM READING TO CONRAIL TO CSX TO SHORT LINE

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MIDNIGHT TRAIN

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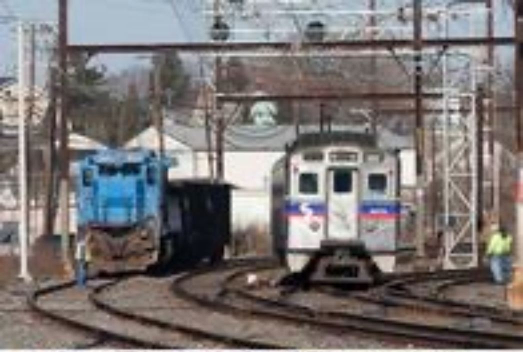

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PENNSYLVANIA NORTHEASTERN LOCOMOTIVE ROSTER • 2014

No.	Builder	Model	Former number	Built	Notes
[illegible]	EMD	[illegible]	UP [illegible]	[illegible]	
[illegible]	EMD	[illegible]	CN [illegible]	[illegible]	
[illegible]	EMD	[illegible]	CN [illegible]	[illegible]	
[illegible]	EMD	[illegible]	CN [illegible]	[illegible]	Rebuilt by CN from GP9 [illegible]
[illegible]	EMD	[illegible]	CN [illegible]	[illegible]	Rebuilt by CN from GP9 [illegible]
[illegible]	GE	[illegible]	NS [illegible]	[illegible]	Former Conrail [illegible]
[illegible]	GE	[illegible]	NS [illegible]	[illegible]	Former Conrail [illegible]

LOCOMOTIVES

From the beginning of the diesel locomotive era [illegible]

[illegible]

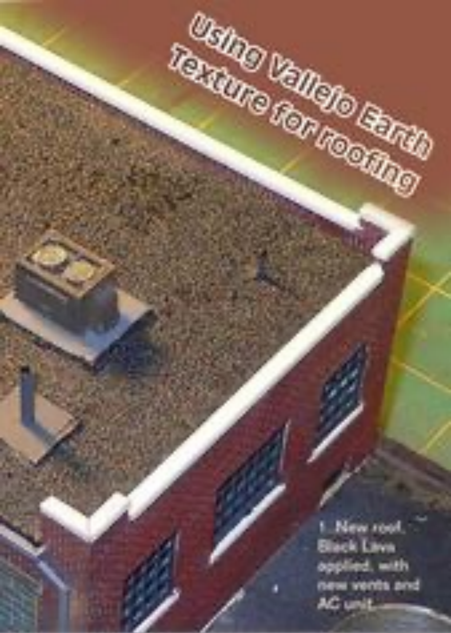
[illegible]

A good thing, indeed. ∎

[illegible]

– By Rob Bennett
Photos by the author

Using Vallejo Earth Texture for roofing

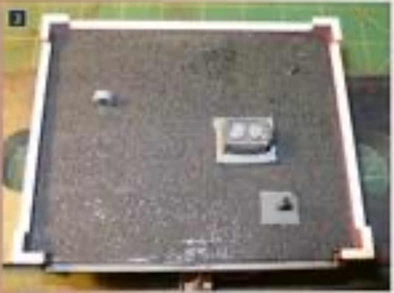


1. New roof. Black Lava applied, with new vents and AC unit.

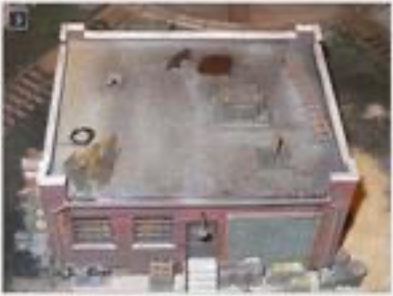
An easy technique for getting a realistic-looking textured roof ...

Reader Feedback

I recently was in need of a small office for my engine facility. Not wanting to scratchbuild, I found the Walthers Cornerstone Industry Office, kit #4020. The overall look and size were perfect. I made a few modifications, including repainting into more of a redish brick color, adding mortar



2. Close up, ready for weathering.



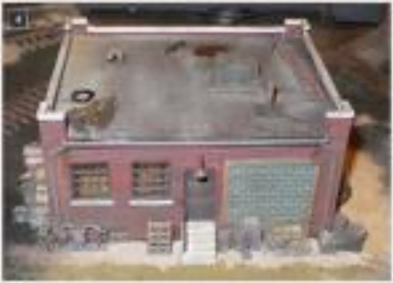
3. Finished-weathered and detailed.

lines, and removing the rear loading area and replacing it with a cinderblock wall. Also, the roof just didn't look right to me. It seemed to have too many vents for such a small building, and I wanted more of a "gritty", sand-like roof appearance.

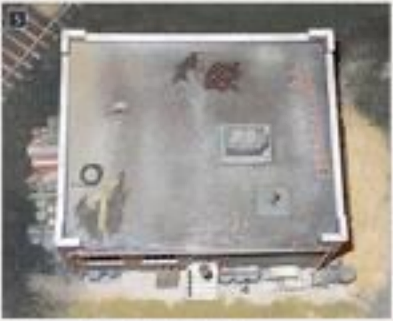
I decided to fabricate a new roof out of .060 styrene. Using the original roof as a template, cutting the new roof was simple. I added a few vents and an air conditioner. Now, how to finish it? I have been reading a lot of military armor modeling sites, and these guys are way more advanced than I was in terms of painting, weathering, and special weathering effects. I decided to purchase several of the items I had seen used. For this project, I decided to try some of the Vallejo Earth Texture, as it has a nice, fine, gritty texture. It is a dark black color, and

I weathered it with some of the Vallejo and Secret Weapon washes.

I tried some on a scrap piece of styrene, to get a feel for how it applies. After painting the white styrene with some dark grayish automotive primer, I used a small trowel and spread a thin layer on the roof. It applies nicely- it can be worked easily and spread as desired over the roof. It dries relatively quickly to a very hard surface. I experimented with weathering the roof with several different items/techniques. I settled on the rust colored washes from Vallejo and the Concrete wash from Secret Weapon. Final touches were added with some Bragdon powders and a bit of AK Interactives Wet Effects Fluid. A discarded ladder, a hose, some boards, and a piece of "junk" finished the roof details.



4. Slighty different angle of finished roof.



5. Top down look at finished roof.

Vallejo makes several other Earth Textures that may also be applicable – I have not tried others yet but suggest visiting the Vallejo website for more information and ideas. The Textures can be mixed with other Vallejo paints, washes, gels, etc. for a nearly endless variety of colors, textures, and effects. ■

Reader Feedback
click here

Materials used:

- Automotive Primer
- Vallejo Black Lava Earth Texture, item 26.214
- Vallejo Model Wash- Rust, item 76.506
- Vallejo Model Wash, Dark Rust, item 76.507
- Secret Weapon Wash, Concrete
- AK Interactive Wet Effects Fluid, item AK 079
- Various Bragdon weathering powders ■

RUST-OLEUM
STOPS RUST
PRIMER
WASH
WASH

Rob was a model railroader in his teens and got back into model railroading about 4 years ago with the start of his first "real" layout. Rob recently was modeling the Reading, which was his father's favorite, but now he and his son Stephen are starting a new layout with a modern freelance theme, based loosely on the CSX and NS.

Rob especially enjoys structure building and scenery. Rob's also looking at using C/MRI for the signals, lighting, sounds, on his new layout.

Rob works for GE Energy in the power transformer repair business. In addition to working for GE, Rob is a Lieutenant Colonel in the Pennsylvania Air National Guard, and has been deployed twice, once to Iraq and once to Afghanistan. Rob is 48, married, and has 3 children. Rob's middle son, Stephen (15), is his partner in all things railroading.

▶ Reader Feedback Click here

Hauling lumber and

This Pacific Northwest logging and quarrying model railroad features dual-gauge track

By Lew [illegible] • Photos by the author

stone to the sea

[illegible]

2. In this view down one side of Floyd's layout, Elk Valley and its harbor is on the right; the mountainous scenery on the left was incorporated from a previous layout. The upper level is the logging area, with hand-painted backdrops.

3. Elk Valley Shay no. 3 has dropped off its log load at the sawmill and is now pulling empty flatcars for the trip back up the logging branch. Most of the layout, including this scene, includes dual-gauge track.

Since Christmas [illegible], when his parents gave him a [illegible] set, Floyd [illegible] has built four layouts [illegible] HO scale [illegible]. The [illegible] part of the layout was the current HO scale Elk Valley RR [illegible] he started building it in [illegible].

Floyd has long been interested in logging and quarrying. So on his railroad he continues the movement of lumber from the Pacific Northwest forests to [illegible] and the resulting products to lumberyards. He also models rail service to and from granite quarries.

One of Floyd's favorite areas on the layout is the wharf in the port of Elk Valley, where [illegible] from the mills [illegible] that are then shipped back [illegible]. Trains also deliver supplies for the local [illegible], pick up [illegible] at the grain elevator, and haul granite from the Gray Granite quarry.

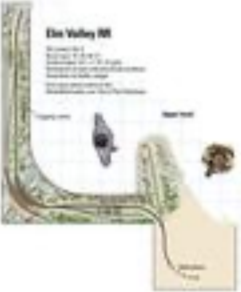
Marine salvage is also brought to Elk Valley along with [illegible] logs and [illegible] to be shipped out by boat or barge. A small lumberyard and a few companies are also located here.

Construction begins

Floyd prepared the room by painting the plasterboard ceiling white and the walls sky blue. After building benchwork using L girders and open grids, he hand-painted a backdrop onto the walls.

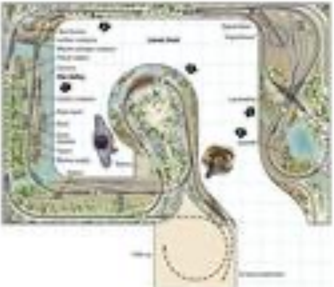
There's an impressive thunderstorm in one upper section of the layout. In this area, Floyd combined painted clouds with flashing strobe lights to create the illusion of an active storm.

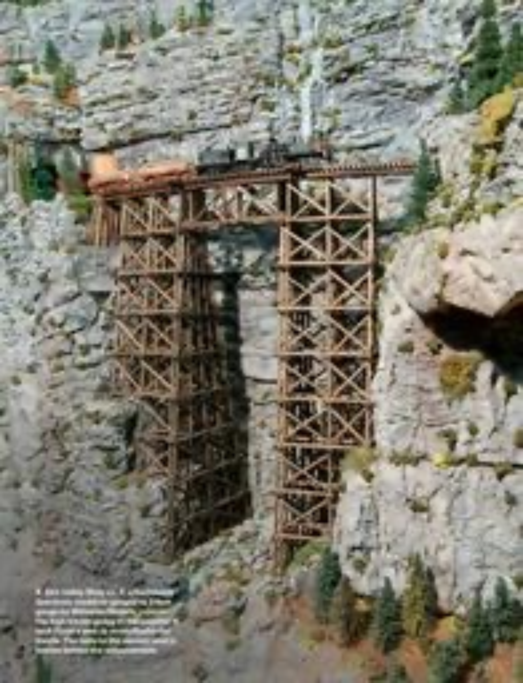
The track on the layout, both standard gauge and HOn3, is [illegible] code 70. Much of it is dual gauge, including 17 dual gauge turnouts. All turnouts on the layout, be they standard, narrow, or dual


Elm Valley RR
Logging camp
Upper level

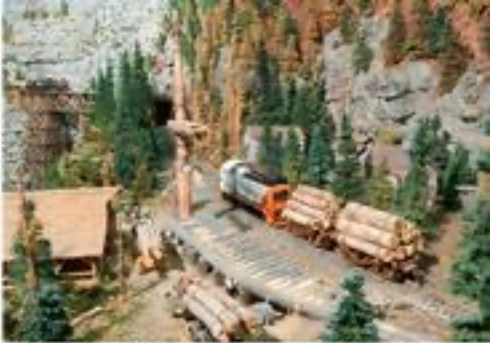
The layout at a glance

Name: Elm Valley RR
Scale: HO/HOn3 [illegible]
Size: [illegible]
Theme: logging and quarrying
Locale: Pacific Northwest
Era: [illegible]
Style: walk-in
Mainline run: [illegible]
Minimum radius: [illegible]
Minimum turnout: no. 6
Maximum grade: [illegible] percent on helix
Benchwork: L-girder with open grid
Height: [illegible]
Roadbed: cork and Homasote
Track: [illegible] standard, narrow, and dual gauge
Scenery: extruded foam insulation and [illegible]
Backdrop: painted on walls
Control: Digitrax Digital Command Control


Lower level
Elm Valley
Helix



[illegible]



16. Engine no. [illegible], a [illegible] diesel, drops off logs at [illegible] sawmill while Shay no. [illegible] crosses the high trestle in the background. Floyd supplies his sawmills with logs cut from a spruce tree outside his house.

gauge are powered by Tortoise by Circuitron switch motors.

Scenery and structures

[illegible]

[illegible]

[illegible]

Floyd [illegible]

[illegible] products. [illegible] structures, [illegible] and [illegible] power on the railroad.

Mission accomplished

Floyd [illegible] the railroad [illegible] Digitrax Digital Command Control. [illegible] standard gauge [illegible] narrow gauge railroad [illegible] There are [illegible] standard gauge and [illegible] narrow gauge freight cars, all built to handle the [illegible] of a logging road.

Floyd's goal in building the layout was to develop a miniature rail transportation system, its purpose being the movement of logs, wood products, and [illegible]. If he had to do it again, he [illegible] but he'd stick with the narrow gauge logging and quarrying theme.

Floyd [illegible] hours of scenery construction, which he says is his passion. He's fortunate to have been able to achieve that goal.

Lou Sassi is a frequent contributor of photos and articles to *Model Railroader* magazine and its special issues.

Meet Floyd Dennis

Floyd Dennis is a native of Toledo, Ohio, where he lives with his wife of [illegible] years, Carol. They have five children, five grandchildren, and [illegible] great-grandchildren. A retired cabinet maker, he's been a model railroader for [illegible] years. His layout has been open for tours in conjunction with the National Narrow Gauge Convention. Floyd's other interests include [illegible], "which takes my time up."

A MARKET STALL

Is your layout getting [illegible] [illegible] creates detailed market stalls by combining kits from several sources.

S[illegible]

WHAT YOU WILL NEED

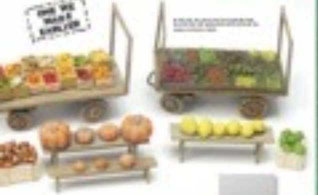
[illegible]

MAKING THE STALLS & CRATES

1 STALLS

[illegible]

[illegible]


ONE WE MADE EARLIER

[illegible]

[illegible]

[illegible]

CRATES

[illegible]

[illegible]

MAKING THE FRUIT & VEG

MAKING THE

FRUIT & VEG

[illegible]

CABBAGES

[illegible]

[illegible]

MELONS

[illegible]

PUMPKINS

[illegible]

Acrylic Spray

[illegible]

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Contents
Index

[illegible] looks at the history of a narrow gauge line in Austria,
now the subject of a successful preservation operation,
which is celebrating its 125th anniversary this year.
Photographs by the author, or from the [illegible] collection

Steyrtalbahn

On the 760mm narrow gauge in Austria

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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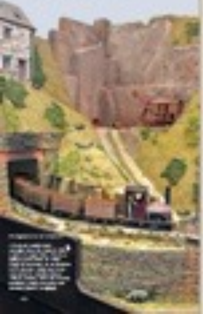
California Levels

[illegible]



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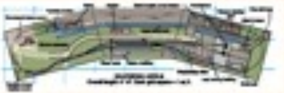

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Recreating a historic Swedish train

A visit to the Kosta Railway

By [illegible] | Seattle, Washington | [illegible]

[illegible]

1. The [illegible] narrow-gauge [illegible] at the [illegible] point in southeastern Sweden in [illegible]

The Kosta [illegible] was a narrow gauge [illegible] industrial railway that ran [illegible] kilometres from a glass factory to a mainline interchange in southeastern Sweden. This line was in operation from the end of the 19th century through the middle of the 20th century. [illegible] glass works is now a famous centre for artistic glass but, [illegible] years ago, its basic product was beer bottles and [illegible] glass [illegible] for household [illegible]

The railway was used primarily to transport raw materials to the factory and finished glass products to the mainline for transshipment. At the end of a train of open freight cars would be a small, two-axle, third-class passenger car that employees and family could use to travel down to the mainline, to [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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TAKE 2

[illegible]

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[illegible]

> "As with all my other layouts it is set in the north west of England; if only for the fact that this was on my doorstep and I could simply go out and photograph the prototype - no need to look in books!"

[illegible]

[illegible]

N[illegible]

[illegible]

KEY [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

KEY [illegible]

CONVERTING AN EXISTING LAYOUT TO DCC

[illegible]

OWNER FACTFILE

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

> Regular maintenance and repair is always ongoing, but apart from the odd point motor failure, '[illegible]' has stood the test of time well.

[illegible]

SEE '[illegible]' AT [illegible]

[illegible]

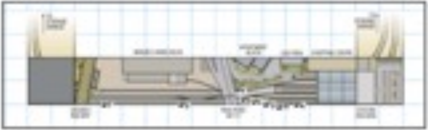
SEE MORE ON RMweb

[illegible]

NEXT

[illegible]

LAYOUT FOCUS NEW BRYFORD take 2



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Build an Animated Wigwam Sawdust Burner

[illegible]

One of my earliest memories in[illegible] the airport with my mother and older siblings to meet my dad's incoming flight. [illegible] both served by the Sacramento Northern Railroad. [illegible] "[illegible]" sitting next to it. On this trip the tops of the "burners" were crowned with a rich orange glow — [illegible] since 1957.

Fast forward [illegible] to a recent issue of the Walthers Flyer. In the pages of specials I saw the JV Models 3030 "Wigwam Sawdust Burner." This would make a perfect complement to the [illegible] I had just [illegible] and installed on my layout. And it could help preserve my childhood memory of a giant, glowing, [illegible] burner. I ordered the sawdust burner the next day.

When the kit arrived [illegible] for one thing. The solid cast metal capping dome would not allow light through to simulate the [illegible] within. In other words, without a little modification, the model would [illegible].

I decided to remove the solid dome and replace it with

Above: The new screen and a [illegible] [illegible].

Below: [illegible]

Below: The [illegible] comes with the kit [illegible] solid cast metal [illegible]

[illegible]

[illegible]

they made metal screen shaped to fit inside the metal ring "catwalk" that would remain after the dome was removed. The screen for the fine mesh screen was a bit of a surprise. I was contemplating the use of window screen, but its mesh seemed a bit coarse. Somehow I spotted a small kitchen strainer [illegible] for [illegible] applications, and [illegible]. The mesh in the strainer seemed almost perfect in scale inside the catwalk. With some simple surgery, a bit of patience, and a good supply of No. 11 knife blades, I gradually cut around the base of the dome where it joined the catwalk. In a similar fashion, I cut the mesh away from the strainer handle and shaped it to fit within the catwalk ring. Microdrilled [illegible] holes around the edge of the ring, inserted [illegible] wire as handrail supports, and soldered on a handrail fabricated from more [illegible]. With a coat of flat black paint, I had a new dome — [illegible].

The next steps involved modifications of the three disks used to support the lantern's [illegible] shell. The two lower disks needed holes drilled for wiring, and the upper disk needed several holes drilled to allow light to shine through from below.

I also drilled a [illegible] hole in the center of the discarded cast metal dome, along with a hole for wire passage. The discarded dome could be inverted and slid over the center dowel below the upper disk to serve as a housing and a reflector base for the lighting.

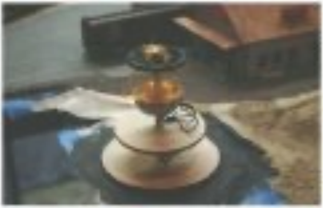
I chose the Miniatronics [illegible] Fire & Flame Simulator as a light source. This only [illegible] two small orange bulbs to [illegible] random [illegible]. The required power source is 12 volts DC.

The Miniatronics unit includes a few small pieces of orange cellophane to enhance the color and [illegible] of the small bulbs. I [illegible] cellophane [illegible] the bulbs and then

[illegible]

[illegible]

[illegible]



[illegible]

did the upper disk into place above the light source. I also painted the upper disk flat black to make it less noticeable below the simulated dome.

After I installed the disk assembly on the layout, I adjusted the height of the light source so it would also illuminate the opening where the conveyor enters the cone and the dumper room at about the same level. The conveyor entrance and the dumper are approximately two-thirds of the way up to the top of the cone. I also threaded some of the cellophane through a few of the holes in the upper disk.

Finally, I slid the cone assembly over the disks, placed the dome atop the cone, and performed a "test run." With the layout room darkened and the flame simulator turned on, I was transported back to a time when I was a three-year-old at the mill on the teepee [illegible] with my dad.

My thanks goes to Lynn at Miniatronics and those at JV Models for their permission to [illegible] their products in this article. ■

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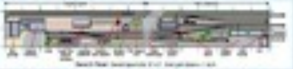
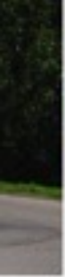


LITTLE CAR
BIG INFLUENCE

[illegible]

GLAS WAS DETERMINED THAT THE CAR WOULD BE RELIABLE BUT ALSO THE CLEANEST [illegible]

[illegible]



[illegible]

The car that refused to die

[illegible]

[illegible]

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[illegible]

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[illegible]

[illegible]

[illegible]

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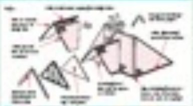

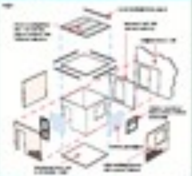

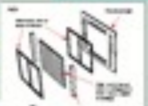

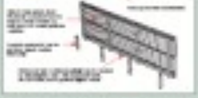

[illegible]

Small railway gallery

The diary of a serial compact layout builder

[illegible]

[illegible]

[illegible]

[illegible] shows you how to build authentic models of these narrow gauge diesels on the basis of proven unit mechanisms. Photographs by the author.

Brohltal diesel

Scratchbuilding a large scale Orenstein & Koppel 0-4-0D

[illegible]

[illegible]

[illegible]

[illegible]

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Precision Angle Sander

[illegible]

[illegible]

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ARCADIA

SCOGRAIL

[illegible] Texas, on March [illegible]

TAKING ROOT IN TEXAS

How one man planted his feet in East Texas to grow his short line

Story and photos by Ken Fitzgerald

[illegible]

[illegible] President [illegible] stands to address the crew at the morning job briefing.

[illegible]

THE BACK STORY

[illegible]

Conductor Robert [illegible] prepares to switch out scrap metal gondolas at [illegible] in Greenville.

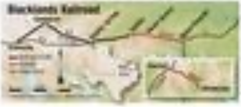
A Blacklands train passes over Texas State Highway 24 in Commerce. The "Cotton Belt Route" name remains on the bridge more than 25 years after the railroad became independent.

A maintenance-of-way crew uses an ex-Union Pacific hi-rail truck to replace ties as they head west toward Greenville in March 2013.

[illegible]

[illegible]

[illegible]



[illegible]

THE MAN BEHIND IT ALL

[illegible]

[illegible]

The railroad's headquarters offices are located inside the [illegible] former Cotton Belt Route depot at Sulphur Springs.

[illegible] at Sulphur Springs, just before [illegible]

[illegible]

[illegible]

Ex-Illinois Central Gulf [illegible] No. [illegible] [illegible]

Scrap Box Structures

[illegible]

[illegible]

[illegible]

Design

[illegible]

[illegible]

[illegible]

[illegible]

Materials

[illegible]

[illegible]

[illegible]

[illegible]

Construction

[illegible]

[illegible]

[illegible]

[illegible]

Painting

[illegible]

[illegible]

The Roof

[illegible]

[illegible]

[illegible]

Doors, windows and trim

[illegible]

[illegible]

Foundation

[illegible]

[illegible]

Karl Weber describes new operating techniques using Train Controller software and TKT software and hardware which allows automatic simulation of realistic procedures such as adding a [illegible] [illegible] heavy freights, or [illegible] [illegible] local freight.

Modellbundesbahn

7. Automatic operation of a local trip freight

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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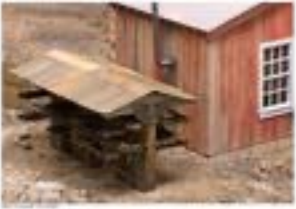
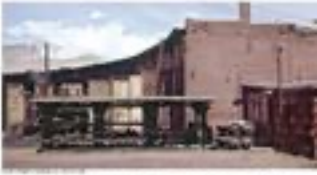


Scratchbuilding a boiler flue storage rack

A sturdy addition to a steam engine servicing facility/**Tom Troughton**

[illegible]



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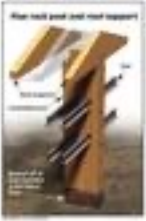

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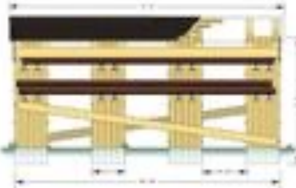
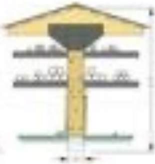




Scratchbuilding a boiler flue storage rack

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Frenchman River Model Works Carfloat

Review, Assembly, and Scratchbuilding a Pontoon Transfer Bridge to Mate With it

[illegible]

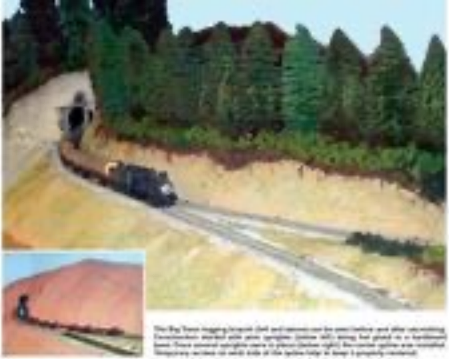
[illegible]

on the Morris Canal side. I have a pair of [illegible] bridges that used some of Walthers' span bridge track components. Walthers' [illegible] mating standard to my composite pontoon transfer bridge at the [illegible] Terminal opposite, so I can transfer cars using Walthers carfloats. However, I also built three carfloats and a transfer bridge prior to the release of the Walthers models. They are built to a different template and cannot mate with Walthers. This all occurred prior to the publication of the engineering drawing of the Pennsylvania Railroad standard for track spacing and toggle pocket placement for carfloats and transfer bridges in New York Harbor in *Transfer* [illegible] the quarterly journal of the [illegible] Group published and edited by John Teichmoeller). Walthers' transfer bridge does not mate with this standard either. It is to this standard that Frenchman River built its carfloat, both this three-track version and its previous two-track platform barge. The latter I had modified to my prior standard. However, I didn't want to do this again since the [illegible] of the three-track float [illegible] with [illegible] and toggle pockets [illegible] [illegible] as in the published engineering drawing. Frenchman River Model Works now has a transfer bridge that is compatible with the carfloat.

Since a friend of mine decided to [illegible] his two-track [illegible], I decided to build [illegible] and [illegible] a transfer bridge to fit [illegible]. I did not want a third mating standard on my waterfront. I did want to build a [illegible] two-track pontoon bridge, which has [illegible] of the bridge on the land side [illegible] a [illegible] was used by [illegible] in Jersey City in Brooklyn at 13th Street, under the Brooklyn [illegible] (See *New York Harbor Railroads Volume 2* by Tom Flagg, pgs. 42 and 43.)

I decided to grind off the cast-on toggle pockets from the carfloat. This was fairly easy and possible with the kit. Whoever [illegible] backfilled the pocket openings, which would have required excessive grinding to be able to put a toggle bar through them. Since I was [illegible] my own transfer bridge, I used [illegible] Port Model Works carfloat toggle kit, which contains castings for toggle pockets, [illegible] bolt heads and toggle bars to fit. I used K&S brass structural shapes to make toggle pockets for the carfloat. A short length of hollow square stock that fit the diameter of the toggle bar was soldered to a length of the brass stock, cut into accurate sizes, and CA'd to the carfloat. The toggle pockets from [illegible] Port Model Works were CA'd to the transfer bridge. This was made on a [illegible]-inch plywood base with parts [illegible] from a Central Valley [illegible] 72-foot girder bridge kit. I then assembled [illegible] girders and bridge [illegible] for the Micro Engineering [illegible]. I [illegible] track. [illegible] work very well for [illegible]. A [illegible] pocket mechanism from a [illegible], wood sheathing from [illegible], a pair of double winches from [illegible] River Products, wheel house [illegible] wheels from [illegible] kit, [illegible] parts, [illegible] sheet material, and structural metals. Floquil and Polyscale paints, Bragdon [illegible], and [illegible] weathering [illegible]. Some shimming of the toggles was required to raise them to seat the carfloat and set the track at the correct height as well. Pictures and text from Tom Flagg's *New York Harbor Railroads Volume 2* served as one of my prime information sources.

The Frenchman Model Works carfloat is an excellent starting point for a rail marine terminal for anyone's model railroad with a waterfront. My only recommendation to the company is not to cast the pockets on the carfloat and include toggle pockets and hardware from [illegible] Port Model Works in the kit. The casting is first rate, [illegible] though, clean, detailed and complete. The [illegible] quick and [illegible]. I paid with PayPal and received the kit less than three days from the time of order. Frenchman River Model Works is a first rate company with many other great kits and detail parts in its catalogue. Check out the company's web site at www.frenchmanriver.com. ■



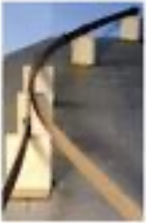
[illegible]

Building laminated sub-roadbed on a flat surface

The Northwestern Pacific Railroad gets some changes/**Richard Todd**

[illegible]

[illegible]



[illegible]

Building laminated sub-roadbed on a flat surface

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Building laminated sub-roadbed on a flat surface

[illegible]

[illegible]

Remembering Russ Cain's "Buck Pass Railroad"

$
BP
$
BUCK PASS

[illegible]

The Buck Pass Railroad was [illegible]

Model railroader Glenn [illegible]: "Russ Cain had one of the [illegible] a single day: October 29, 1929." That was the day of the big stock market crash, the day that began America's Great Depression. The inhabitants of Buck Pass [illegible] just like any other day. They had no idea what was coming.

My father was one of the operators on the [illegible]

Buck Pass was a [illegible] 1929. The [illegible]

Above: [illegible]

[illegible]

[illegible]

So, now, each freight and passenger train [illegible] The entire layout [illegible] could operate [illegible] as well as [illegible] all via a [illegible] network. If [illegible] Tuesday night, the basement would be filled with men

[illegible]

[illegible]

[illegible]

itself. Dad was a lifetime NMRA member and attended many National and Regional conventions. He built plenty of prototypical [illegible] NMRA [illegible] kits. He also contributed an article to the NMRA BULLETIN in the 1970s about building [illegible] "pine cone" [illegible] [illegible].

Rock Pass has been gone for more than 30 years now, but we recently [illegible] Dad built back some of the old rolling stock, buildings, and that could make a whole new beginning for Rock Pass.■

DCC CONCEPTS POINT CONTROL

Howard Smith tests DCC Concepts' products for layout point control.

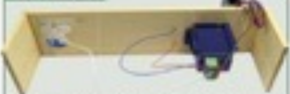
C [illegible]

CLOSING THE FROG GAP

[illegible]

[illegible]

HOW I WIRED IT



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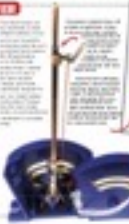
COBALT-S LEVER

[illegible]



[illegible]

[illegible]

CONCLUSION

[illegible]

THE PULSE OF DCC

Hosted by Mark Jones

DCC Wiring for Reliability part 1 of 2

E[illegible]

[illegible]

[illegible]

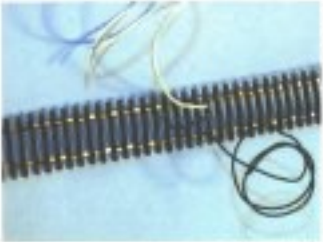
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



well-stocked electronic supply stores and mail order electronic supply companies such as Allied, Digi-Key or Newark. Because I have many blocks for signaling (still under construction) I use numerous colors. It's nice to be able to tell one block from the next. I like to keep things organized and color-coding helps; it also makes trouble-shooting easier should the need arise. The same color code that is used on resistor color bands can be used here to number your blocks:

1 = black
2 = brown
3 = red
4 = orange
5 = yellow
6 = green
7 = blue
8 = violet
9 = gray
10 = white

The feeder wires should be soldered to the rail for good connection. Soldering is not difficult. If you haven't learned how to solder, you should. It is a valuable skill in model railroading. Some prefer to lay the track first, drill a feeder hole next to the rail, and solder the feeder to the side of the rail. Once weathered, it is not so noticeable. I've read of a technique used by Andy Sperandeo to use a solid-core solder wire, flatten the end of it, and bend it to look like a spike, drill the hole through the tie and solder it to the base of the rail. When completed it looks like a spike head. The method I'm currently using that I prefer is to solder the feeder wire to the bottom of the rail. Once in place and ballast applied you can't find it. It disappears. However, marking the wire's location before soldering is important. I use this method on hand laid track and flex track with good success.

After locating the position for the feeder I drill a hole between the ties at a position that will be directly beneath the rail. I then place the rail in position and mark that position by filing the underside of the rail between the ties with a small file. I then place the rail upside down in a homemade block used to file rail for hand-laid track. The spot where you will solder is already clearly marked from the filing operation so you will make a good solder connection.

I use paste flux to assist with solder connections. I use the type found in the plumbing section of the hardware store. It is not absolutely necessary, but if you have been having trouble soldering, it makes the connection easier. Just be sure to clean the rail and connection of flux after soldering because flux is a corrosive and it will continue to corrode the rail and joint connection. I also find that it helps to tin the bottom of the rail and the tip of the wire after you have stripped about ½ inch from the end. After tinning the wire, I bend the wire 90 degrees and solder to the bottom of the rail, cutting off any wire that protrudes past the base of the rail.

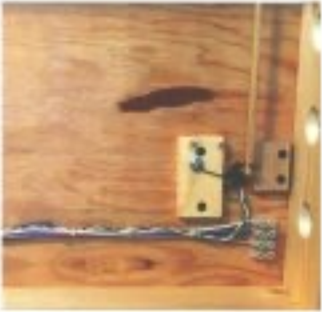
Bus wires that distribute the power from your DCC command station throughout your railroad need to be heavy enough to minimize any voltage drops caused by long runs of wire. For most, a 14 AWG wire is adequate. I use 12 AWG because it is not much more expensive than the 14 AWG. I use No. 18 AWG for the common feeders but No. 22 AWG would be adequate. No. 14 is rated at 15 AMPS, No. 12 AWG is rated at 20 AMPS. Few, if any, home command stations will put out 20 amps. So why are we using such heavy wire? Voltage drop is undesirable. Reduced voltage at the far end of the railroad will affect performance. I can go into the science of it and demon-

means through the calculations the whys and wherefores, but we just want to get the trains running. Therefore there are times we must just accept this principle.

I use a type of wire classified as THHN. I buy a 2500 foot roll in a color. I was introduced to it by [illegible], and it makes soldering the feeders easier. It is available at most hardware and home improvement stores or electrical supply houses. It is used primarily in commercial and industrial applications installed in conduit. The reason we use it here is that it is a single strand where we don't have to strip out the many strands we [illegible] houses. Standard colors include white, black, red, green and blue.

To get the ten colors listed earlier, we [illegible] the white [illegible] second [illegible] and use a [illegible] to put a stripe down the side of the wire to [illegible] to aid in installation and trouble shooting.

Next month we will talk about wiring [illegible] transformers, the [illegible] power management, short circuit protection, and what type of [illegible] for electrical reliability. ∎



Now Just $59.95

Own a piece of railroad history with the NMRA 75th Anniversary Commemorative painting.

In this specially commissioned painting, "[illegible] of the Speedlines," renowned railroad artist Larry Fisher has captured a monumental moment in rail[illegible] from a [illegible] past... 1935, the founding year of the NMRA. Now you can own a signed, numbered print of this magnificent painting for just $99.95* plus shipping and handling. Each print measures approximately 30" x 20", has the 75th Anniversary and Convention logos in the right margin, and is shrink wrapped on foam core.

To order yours, call NMRA Headquarters at 423-892-2846.

[illegible]

Eclipse
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Revolution
HP - TR1

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North American Prototype Modelers

SHORT & SWEET

Post-1960s block freight trains are too large for the average layout, but *Michael Rhodes* has a solution – local trip workings hauled by Class 08/09 shunters.

[illegible]

[illegible]

R[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Loaded hoppers cross a bridge on a dark, rainy day on Alex Marchand's N scale layout. In this scene, Alex used a digital craft cutter (inset) to make the palm tree fronds, [illegible] [illegible], stencils, and decals.

6 WAYS TO USE A DIGITAL CRAFT CUTTER FOR YOUR LAYOUT

It's similar to a desktop printer but cuts shapes instead

By Alex Marchand • Photos by the author

Whenever a machine can do something better and faster than me, I am in. That's why I decided to purchase a digital craft cutter. A digital cutter is a tool that has many potential uses in model railroading. It's similar to a desktop printer except it cuts instead of prints.

[illegible]

FASCIA LETTERING

Adhesive vinyl is a staple for making professional, durable signs. It's also a good tool for making durable labels for a model railroad. Fascia lettering looks great in adhesive vinyl. Here's how I made mine.

Using my digital cutter, I cut out my fascia lettering from a piece of adhesive vinyl. After I cut the lettering, I weeded, I peeled off the excess vinyl.

I then used a product called transfer tape, which is transparent, to pick up the cut lettering and place it exactly where I wanted. Once it's set in place, the lettering stays and the transfer tape peels away.

PALM TREE FRONDS

Palm fronds were my main motivation for buying a digital cutter. I designed the fronds myself. They were inspired by the way Hart of the South Models makes palm fronds, but they don't offer any in N scale, which is what I needed. Other uses for the cut vinyl are corn stalks, sugar cane, tobacco, ferns, and banana trees.

The tree in the middle is a Washingtonian palm and the one on the right is a sabal palm. Both were made from cut vinyl. I simply glued the fronds to wire to form the top of the tree. (The other tree is a steel-wire model from Super Trees and [illegible].)

PAINTING STENCILS

Cut adhesive vinyl makes great stencils, acting as the vinyl is able to stick to the surface you want to stencil, and it peels off cleanly afterward. Adhesive vinyl stencils work great for painting details, especially fascia lettering, on rolling stock.

As you can see in the photo above, I used a cut vinyl stencil to paint the SCL logo on this custom N scale Seaboard Coast Line phosphate hopper model.

CUSTOM DECALS

I've used my cutter to help make custom decals. One method is to cut out decals from decal trim film, but there is a limit to how small a cut the machine can accurately make. I wouldn't venture into any complex cuts smaller than a half inch.

Letters with rounded shapes that are entirely or partially enclosed (in a letter, form, or symbol) would be quite problematic using such a method. But for simple shapes like stripes, a cutter makes some very useful decals.

VENEERS

Even if a cutter is unable to cut thick material, it can still cut veneers for custom structures. Once you cut the veneer, simply strengthen it with your material of choice, such as styrene.

You can go precisely around openings like windows and doors with structure veneers. You can also double or triple up identically cut veneers by laminating them together to make the structure more rigid.

CUSTOM SIGNS

SPEED
LIMIT
45

Digital cutters allow a person to take a custom-printed highway sign one step further by cutting it out with the precision contours that only a digital cutter can achieve. Most digital cutters can cut out printed material.

PRACTICAL BRM

SPRAT & WINKLE COUPLINGS

Phil Parker **shows how straightforward it can be to add these discreet couplings to your rolling stock**

[illegible]

[illegible]

O [illegible]

WHY 'SPRAT & WINKLE'?

[illegible]

STEP-BY-STEP GUIDE

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Tool Car

Conducted by Jack Hamilton, MMR — *The Tool Junkie*

Visiting the "Alternate" Tool Store

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Figure 2

[illegible]

[illegible]

[illegible]

[illegible]

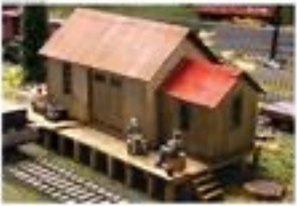
Figure 3

Color and texture, Part II

More aesthetic suggestions/**Bob Walker**

Scratchbuilder's Corner

[illegible]



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PRACTICAL BRM

FOUR WAYS TO WINDERMERE

Layout design guru **Paul A Lunn** suggests how compromise and creativity can help you to model a real location in a realistic space.

Artwork and photographs by the author

OPTION 1:

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OPTION 2

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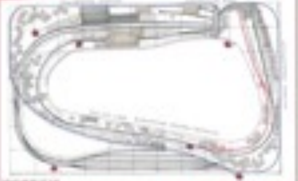

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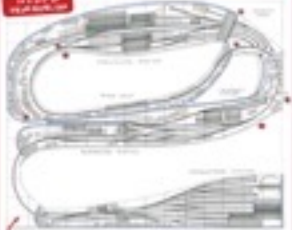
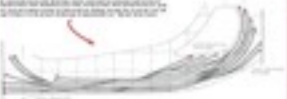
OPTION 3





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OPTION 4 :

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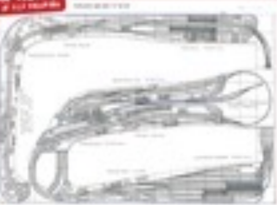

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Crossing the tracks

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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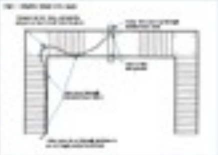


[illegible]

1

[illegible]

[illegible]

FEN DROVE

Closed in 1959, the Midland & Great Northern Joint line across the fens of Lincolnshire and Norfolk remains a popular subject for modellers. John Hadden explains what inspired him to model it in 7mm scale

[illegible]

> the Arun can be very bleak in winter and it once crossed my mind to make this scene entirely in black and white, but I soon realised that this would be much harder than using muted shades

[illegible]

[illegible]

[illegible]

KEY [illegible]

ROLLING STOCK

[illegible]

TOP TIP

[illegible]

[illegible]

[illegible]

KEY [illegible]

[illegible]

[illegible]

> I experimented with various methods for including fish and then saw which, if any, was the most successful.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

> Every shop in the world is a potential source of model making materials and I particularly enjoyed going into Claire's Accessories and asking for nail jewels.

[illegible]

[illegible]

[illegible]

LAYOUT FOCUS FEN DROVE

#1

#2

#3

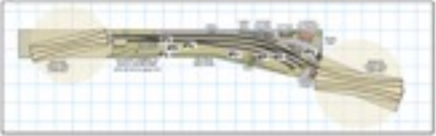
#4

#5

#6

#7

#8



[illegible]

Modeling an SCL E7B

A kitbashed E7 B unit to go with the E8/9 A unit we built last month **Scott Lupia**

[illegible]

Modeling an SCL E7B

SEABOARD COAST LINE

[illegible]

[illegible]

[illegible]

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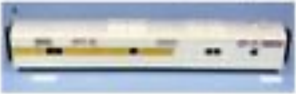

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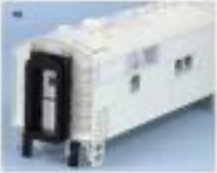
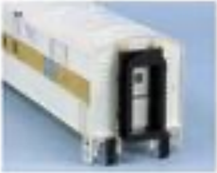
Modeling an SCL E7B





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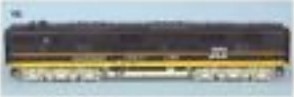

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[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

MRH
$500 layout contest
1st place

Modeling a shortline for under $500 ...

- **By Eugene Griffin**

Photos by the author

Reader Feedback (click here)

A BNSF crew is switching local industries in my home town. It inspired my present-era design, due to the variety of equipment still in service.

Model Railroad Hobbyist articles have inspired you, the photos in MRH blogs have awed you, and you want to give it a try.

Modeling a real railroad in a specific era

The budget and space certainly does not allow an entire class I railroad, or even an entire short line to be modeled (it would take at least 6,069 feet of track in HO scale to model a 100-mile short line, without sidings – well over the $500 budget).

Focusing on an era helps eliminate distractions when visiting the hobby shop. So now, no matter how great that 40' boxcar looks, if it isn't in service on the railroad during the era that has been chosen, it won't be purchased.

I won't mention the specific railroad I chose to model, because I may change my mind. I will say I chose a modern-era North American short line with 100 miles of track and a good variety of industries to model. It interchanges with two class I railroads and terminates in a small city.

Research

The decision to focus on the modern era and an operating railroad greatly reduces the amount of research time. Using the Internet and tools such as Google Maps or the Maps app on an iPad to gather railroad specific information can greatly help in researching the railroad.

My research focused the following questions:

- What route does the railroad follow?
- Does the geography change along the route?
- What is the track arrangement in general over the route? Location of passing tracks, interchanges?
- What towns does the track pass through?
- What industries are being served in what towns, based on satellite images?

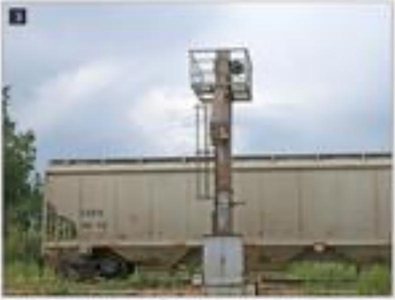
- What are the track arrangements for those industries (if satellite resolution permits)?
- What motive power is being used?
- What equipment is being used?

After spending a couple of evenings "flying" over the short line using Google Maps and the iPad Maps app, I found the satellite images from Google Maps lagged the iPad Maps satellite images. A wood pellet manufacturer had added a siding alongside an existing siding, and an animal feed industry was built with a runaround track for that industry. The Google Street View image was newer, and confirmed the additional siding

2. The feed industry with covered hopper (left) sitting on a recently built runaround track. Selecting to model between the building and the track, with the implied building in the aisle, will reduce cost.

and industry (the runaround siding wasn't visible from the street view).

After a week of on-and-off Internet searching, I had gathered enough information to start choosing what to model. I know the shortline primarily serves the lumber industry. It also serves a wood pellet manufacturer, steel beam fabricator, juice-based beverage manufacturer, animal feed and seeds.



3. The budget will limit the structures used to model industries for now. However, this covered hopper unloading location does not require any buildings. To the left of this photo the track ends in front of the steel beam fabricator; 11 60' car-lengths to the right is the dirt ramp for a corrugated pipe manufacturer, and the beginning of the siding.

distributors, flour mill, chemical distributor, scrap metal yards, cement distributor, oil distributor, propane distributor, and a transloading terminal.

The railroad primarily uses leased GP38-2 diesels. It once had a leased SW1500 (Conrail logo still visible).

Satellite images may capture freight cars in the siding, and provide a clue about the length of the siding and type of freight cars used. As a bonus, Google Street View may capture freight cars at an industry or siding, and if you are fortunate, as I was, an engine crew switching an industry.

To help with modeling the railroad and designing the track plan, take as many screen shots and notes as possible.

Design

Let's start the initial design phase by defining requirements of the model railroad, keeping in mind the reality of the budget and space.

The design goals are:

- Point-to-point operation
- Modular design
- Easily expandable
- Easily transportable
- Industrial switching
- Freight yard
- One engine (GP38-2, hopefully)
- Modern freight cars
- Avoid compression
- Operational challenge

One design criterion I needed to allow for is modern-era freight cars. So, for now, I decided on a 30" radius curves for the main, 28" radius for sidings, and #8 turnouts.

My current residence has a den measuring 9' 2"x11' 7" with a large opening to a hallway on one of the narrow walls, leaving a 2' wall on either side of the opening.

I did a few iterations of possible designs, and the one that meets the above criteria with respect to benchwork is modules that are 1' wide, and a maximum 4' long. The length was chosen to fit easily into my car. Additional connecting modules will be designed to accommodate the curves. Legs will be used to support the modules.

I know that a point-to-point railroad with one engine needs a runaround track at both ends. I have learned from articles that multiple industries on one track can make an enjoyable switching challenge. I know I am attempting to model a real railroad, and that I have limited space and budget.

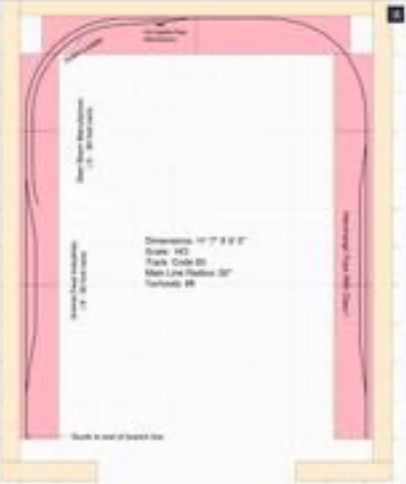
Industries

A runaround track to service an animal feed industry on the shortline provided the location to model. Just to the north, a separate siding serves a steel beam fabricator, a covered hopper unloading facility and a corrugated-pipe manufacturer.

Since I am trying not to compress, that will be it for the industrial modeling, for now. The freight yard will exist on the opposite wall and will serve as the interchange with the class I railroads.

Construction

The benchwork can be constructed using a handsaw, utility knife, pencil, screwdrivers and optionally a hand-drill (to drill

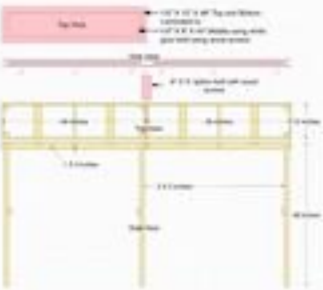

Dimensions:
Scale: HO
Track: Code
Main Line Radius:
Turnouts:

4. The final design which represents four industries in a town, and the interchange with a Class 1 railroad.

holes for the wood screws). The one tool I have is a cordless rechargeable screwdriver and some hex-shank drill bits. This tool or a cordless drill will make construction easier. I selected 1/2" rigid foam insulation for the surface of the module, for ease of transportation.

Cut the 11 pieces of 8' 2x2 in half, for the 11 sets of 48" legs. Next cut six pieces of the 8' 1x3 in half, for the sides of the 4' modules. One piece of the 1x3 is cut into four equal pieces for the sides of the 2' modules. The remaining four pieces of 8' 1x3 are cut into 10-1/2" lengths, yielding 36 pieces for the cross bracing, five boards for each of the 4' modules and three

5



5. Construction details for the 1' x 4' modules

boards for the two 2' modules. Optionally, another couple of lengths of 1x1 can be purchased to add bracing on the legs.

To prevent damage to floors, cut some scrap cardboard boxes into 2" squares and wrap them in plastic wrap. Place these under the legs to catch any wood sap.

For the surface of the modules, cut one 1/2"x48"x96" rigid foam insulation into eight lengths of 1'x4'. The second sheet of rigid insulation provides the next four lengths of 1'x4', four lengths of 1'x2' and three lengths of 8"x4'. The remaining board will provide the remaining three lengths of 8"x4' and two lengths of 8"x2'.

Cut 4" off of each 8"x4' length, and off of each 8"x2' length, saving the leftover for splines. You should now have the following 1/2" rigid foam insulation pieces:

Quantity	Description
12	1'x4'
6	8"x44"
4	1'x2'
2	8"x20"

Laminate the sheets together by applying white glue to a surface of the 8"x44" section and centering on a 1'x4' section. Apply white glue to the exposed surface of the 8"x44" piece and place the second sheet of 1'x4' sheet on top. Use six wood screws to secure the sheets together until the glue dries. Repeat for the 2' sections.

Place each section (screws down) on the wood frames, and secure with wood screws. Trim the spline to 3"x8" and place in the groove between each section, securing with wood screws from the bottom.

Electrical

I chose a DC power pack to begin the layout. DCC is more expense, not only for the power supply, but also for DCC-equipped locomotives. However, I do plan to switch over to DCC, and upgrade the locomotive to DCC. After the conversion to DCC, I plan to use the DC power pack for accessories.

The power pack (throttle) will be placed on top of the module on the shortest wall. This will locate it roughly in the center of this point-to-point layout. At first, I thought the location of the power pack would be an issue, but this will enforce operational practices by increasing time between the engine stop and turnout throws or uncoupling (I am not modeling a race track).

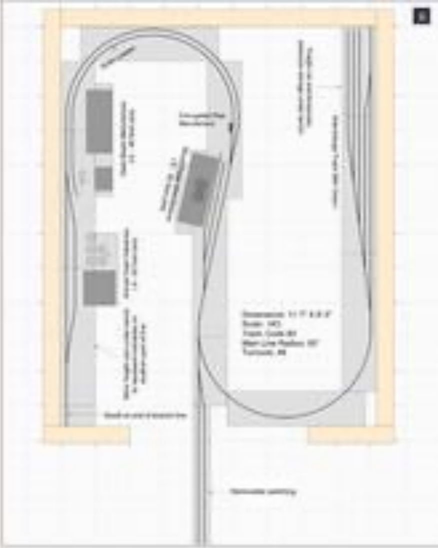
The wires will be soldered to the tracks on each module. A scrap piece of rail can be used to fish the wire through the insulation to the groove on the sides. The wires can then be run in this groove to the power pack. The groove can be covered with scrap rigid insulation, hiding the wires, but still making them accessible. For wire connections, twist the wire together and space-out connections to prevent shorts.

Equipment

I found an Athearn GP38-2 and three freight cars that would fit the remaining budget. Certainly used equipment is cheaper, but I like the new-equipment smell.

Expenditures

I was a skeptic about cost when I started. I thought there was no way I could model the short line I wanted on a $500 budget with the space I have. But I came in just under the target budget.



6. When the budget permits, the layout can be expanded to represent all industries in the town and elsewhere on the shortline.

Future

For scenery, paint and playground sand can be used initially, and then ground foam, static grass, and trees can be added. Some material can be gathered outdoors and used (with the appropriate preparation). Purchasing scenic material will go over the budget, but my goal was to get started with track, equipment, and benchwork, so a pink top is OK for now.

I am already considering expansion. A wood pellet manufacturer is the last industry in the town before the short line curves to the north, and then to the west. At that curve, on the east end of town, there are two tracks heading east that can be used for switching (these are remnants of a former interchange with another shortline).

The Atlas track and turnouts will slowly be replaced with hand-laid track. I will use the Atlas track in the interchange area, or in the new storage area under the bench.

The industries can be modeled with parts from kits, or with photo-mural techniques that have been written about in many articles. ☑

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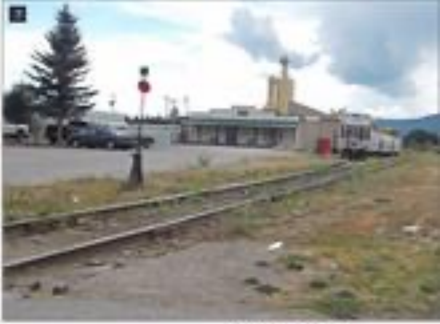

7. A wood pellet manufacturer close to the center of town has added another siding, shown here occupied with covered hoppers. The original siding is next to the building.

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Source	Item	Unit Cost	Qty	Total
	Framing			
Home Depot	2x2x8 wood for legs	$2.07	11	$22.77
Home Depot	1x3x8 wood	$2.12	11	$23.32
Home Depot	Wood Screws #8 1 1/2"	$3.80	2	$ 7.60
Home Depot	FOAM 1/2"x48"x96"	$12.98	3	$38.94
Home Depot	White Glue allowance	$3.00	1	$ 3.00
	Framing Sub-total			$95.63
	Electrical			
RadioShack	24 AWG 25 FT Red	$3.65	1	$3.65
RadioShack	24 AWG 25 FT Black	$3.65	1	$3.65
RadioShack	Solder	$4.49	1	$4.49
Hobby shop	MRC Railpower 1370	$59.98	1	$59.98
	Electrical Sub-total			$71.77
	Track			
Micro-Mark	Xuron track cutter	$16.20	1	$16.20
TRACK	Atlas 36" Flex Track	$5.99	15	$89.85
TRACK	Rail Joiners (24)	$1.89	2	$3.78
TRACK	Atlas Turnout #8	$16.99	5	**$84.95**
	Track sub-total			**$194.78**
	Equipment			
Athearn	GP-38-2	$84.99	1	$84.99
Atlas	Thrall 4750 Covered Hopper, First Union R	$17.99	2	$35.98
Atlas	62' Flat Car, BNSF #592515	$15.49	1	$15.49
	Equipment total			**$136.46**
Taxes and shipping are not included.	**Total**			**$498.64**

Eugene returned to the hobby after a thirty year hiatus. He reignited his love of the hobby and unpacked the Athearn blue box kits that have followed him from childhood.

He built a switching layout, but constant relocations for work resulted in its dismantling. Not letting the frequent moves deter him from his new-old hobby, he switched to inexpensive light weight modular designs that can be disposed of without huge financial loss.

He models a modern era shortline, and looks forward to many years of enjoyable learning, experimenting and mastering the many aspects of this great hobby.

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[illegible] Brand Apples Reefer Car

[illegible] Mt. Cherry Reefer Car

[illegible] Mt. [illegible] Apple Reefer Car

[illegible] Red Wagon Apples Reefer Car

[illegible] Reefer Car

[illegible] Apples Reefer Car

[illegible] Vegetables Reefer Car

[illegible] Salmon Reefer Car

[illegible] Frisco Outside Braced Reefer

[illegible] Steel Boxcar

[illegible] Steel Boxcar

[illegible] Great Northern Outside Braced Boxcar

[illegible] Santa Fe Outside Braced Boxcar

[illegible] Pennsy Outside Braced Boxcar

[illegible] NYC Outside Braced Boxcar

[illegible] Union Pacific Outside Braced Boxcar

[illegible] SP Outside Braced Boxcar

PICAXE CIRCUITS FOR MODEL RAILROADERS

Part 1

– By Dave Bodnar
Photos by the author

▶ Reader Feedback click here

Build a remote-controlled DC speed controller. Control animations or run DC trains, hands-off, through a pre-programmed route ...

PICAXE?

A PICAXE microcontroller chip was originally designed for students building simple electronic projects. The PICAXE system has now also been widely adopted by hundreds of thousands of hobbyists due to its ease of use. Each year thousands of high school students are introduced to electronics and microcontrollers by building a PICAXE project.

PICAXE chips are popular because they are very low-cost and simple to program using free, easy-to-learn software.

For model railroaders, PICAXE can be used to control and operate an endless array of things on the layout from simple animations to complex automated train display operation.

- See more at: picaxe.com/What-is-PICAXE ●

Since 2004 I have been singing the praises of the PICAXE family of microcontrollers to fellow model railroaders through articles on my website (trainelectronics.com) and through presentations at national and regional model railroad conventions.

I have long wanted to put together a complete kit that would allow beginners to start working with the PICAXE while building a useful model railroad accessory. The new PICAXE 18M2 chip inspired me to write this article and assemble the parts for the kit that accompanies it. The completed kit is a full-featured model railroad speed controller with many innovations and interesting features and capabilities. The controller can be used for other projects as well, because the it will work with any 3-volt to 35-volt DC motor.

Controller

The unit is a trackside power controller that can operate any model train that runs on direct current (DC) and draws 3 amps or less (this includes most of our trains and trolleys). It is operated by means of a simple TV infrared remote control unit. In its most basic mode, the controller allows you to increase or decrease train speed. and reverse the train's direction with the handheld TV remote. This is an ideal way to operate the train under the Christmas tree! In point-to-point mode, the controller can be programmed to automatically run the train in one direction for some time, decelerate it, come to a complete stop, reverse, and continue in the other direction. This makes it a perfect controller for a small work train or a trolley. I also have plans to use one for my incline railway and a cable car (davebodnar.com/railway/incline/index.htm).

Additional modes and functionality can be added by modifying the PICAXE BASIC program to allow the controller to operate aboard a train or as a controller for animations.

Since it is able to control the speed and direction of any DC motor, it also can be used with any number of other projects including robotics, animation, and holiday exhibits.

Endless possibilities

A second article will show how a few components can be added to this circuit to not only control the speed and direction of a train, but also to record a series of movements over many minutes and play back the same sequence of moves over and over. This is a great way to add variety to demonstration or self-running train layouts. I plan on using this controller to operate the layout we maintain at the Children's Hospital of Pittsburgh. Rather than just having the trains run in a simple loop, the controller's recording will have the trains running, stopping, and reversing.

Control options

One of the most difficult tasks one faces when designing a microcontroller-based device is creating a user interface that allows the operator to operate the unit with ease. Because the PICAXE 18M2 has the ability to interpret and act on codes sent from a TV remote control, the user interface can be both full-featured and easy to use. The remote shown in figure 2 is a Westinghouse unit that sends the Sony codes the PICAXE is programmed to interpret. Most Sony and multi-brand programmable remote controls will work. It is possible that some of the buttons will not match those shown here, but is it a simple matter to modify the program code to work with another remote control [2].

This TV remote control's buttons are used as follows:

- Channel Up – increase speed
- Channel Down – decrease speed
- Volume > or < – change direction
- Menu – stop, remembering speed, or start at the stored speed after a stop
- Return – enter configuration mode
- Number Keys 1-0 – enter configuration data while in configuration mode

Using the Controller

The video below shows many of capabilities of the controller.

2. Example Westinghouse brand remote that can send the Sony codes the PICAXE is programmed to interpret.

click to play video

Playback problems? Click to try a different version

4. The 18-pin PICAXE 18M2, the brains behind the controller.

Hardware

A new member of the PICAXE family, the 18-pin 18M2 (picaxe.com/docs/picaxe18m2.pdf) controller, is an extremely capable chip that is well-suited to the demands of this project.

The 15-pin L298N H-bridge device is responsible for controlling the direction of travel and the speed of the train. It is called an "H-bridge" because such devices are frequently drawn on a schematic with four transistors in an "H" pattern [5].

I like to think of an H-bridge as a solid state double-pole double-throw switch. As you may know, a DPDT switch can be wired so that it delivers power to a train with one polarity in one position and with the opposite polarity in its other position. Reversing polarity reverses the motor's rotation.

The infrared commands from the handheld remote control are received by a small chip, the Vishay TSOP4838 (vishay.com/docs/82459/tsop48.pdf). Its small, boxy case and three leads belie its complexity. Inside is a sophisticated circuit that detects the 38 KHz infrared data stream from the TV remote control and filters it into a series of pulses that are interpreted by the PICAXE [6].

Other components include indicator LEDs, a voltage regulator, and assorted resistors, capacitors, and diodes. It is a straightforward circuit that works well with loads of up to 3 amps.

DC power is supplied by any filtered DC power supply providing 12-24 volts. I have had great success using old laptop computer power supplies for this and other projects. Be sure to use an appropriate heat sink on the L298N if current is likely to exceed 1 amp.

5

5. The L298N H-bridge, the "brawn" of the PICAXE controller.

6. The small Vishay TSOP4838 chip receives the infrared codes.

How it works

The PICAXE is programmed through pins 2 and 3, which are connected to the computer's serial port (or to a USB-to-serial adapter). Resistors R1 and R2 and a DB9 connector are all that are needed to connect your computer to the PICAXE for programming.

Infrared pulses are generated by pressing a key on the TV remote control. These are received by the IR receiver IC and sent to the PICAXE through pin 8.

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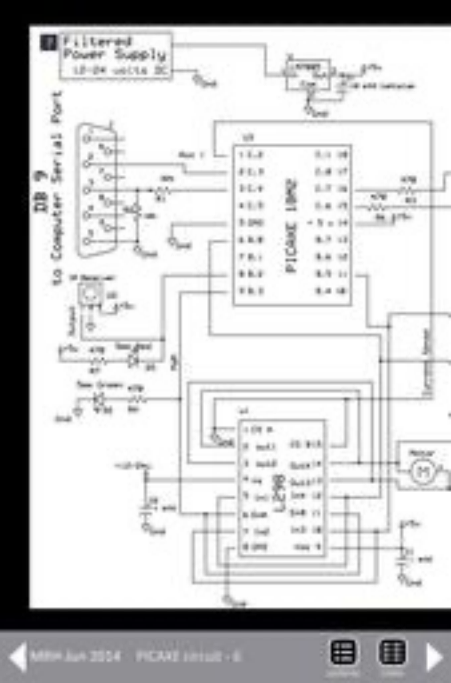
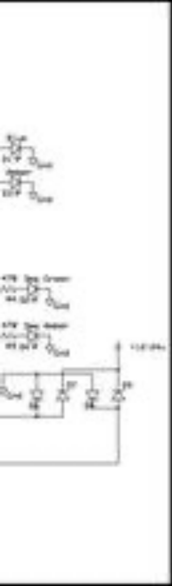

Filtered
Power Supply
12-24 volts DC
Gnd
Gnd
DB 9
to Computer Serial Port
U3
PICAXE 18M2
Gnd
Gnd
Gnd
IR Receiver
Output
Gnd
U4
L298
Motor
M
Gnd
Gnd
Gnd
MRH Jun 2014   PICAXE circuit - 6

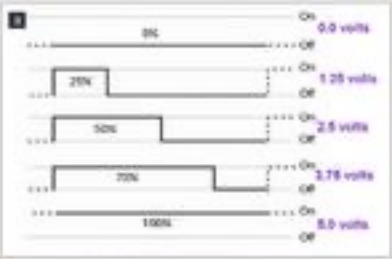

Green
Amber
Gnd
Gnd
Gnd
Gnd
D7
D8

7. The PICAXE controller circuit diagram.

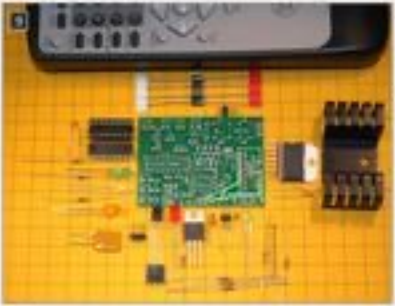
← back to previous page of text ...

All power control is performed by pins 6, 11, and 9 on the PICAXE. These pins control the output of the L298N H-bridge. The L298N is designed to operate two separate motors, each drawing up to 2 amps. In this application we are controlling only one motor, so its control and output pins have been wired in parallel, to supply up to 3 amps of current to the motor.

When the PICAXE's pin 6 is at +5V (known as "high") and pin 11 is at 0V (known as "low"), the motor will rotate in one direction. When pin 6 is low and pin 11 is high, it rotates in the opposite direction. LEDs D2 and D4 light to show you which direction the L298N is set to.


8
0%
On
Off
0.0 volts
25%
On
Off
1.25 volts
50%
On
Off
2.5 volts
75%
On
Off
3.75 volts
100%
On
Off
5.0 volts

8. How the PICAXE pulse width modulation (PWM) pulses simulate variable voltage.

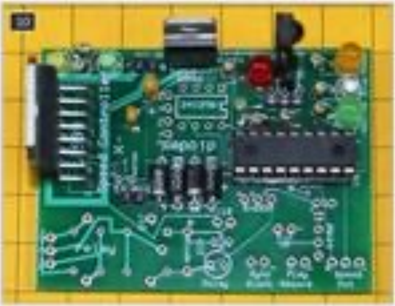


9. The parts arranged near their locations on the circuit board.

The H-bridge spins the motor at full speed when it receives +5V ("high"), and stops it when it received 0V ("low").

But what about intermediate speeds? We don't want our locos running at full speed all the time! Microprocessors generally can't produce variable (analog) voltages, so they use "pulse width modulation" or "PWM" to achieve variable speeds. PWM sends a series of 5V pulses to simulate a variable voltage. For example, if the pulses are on half the time and off half the time, the pin appears to have half of the supply voltage ,or 2.5V on it. Pulses that are on 25% of the time and off 75% of the time look like 1.25V, and so-on. See [8]. (This is exactly how DCC decoders vary motor speed.)

10



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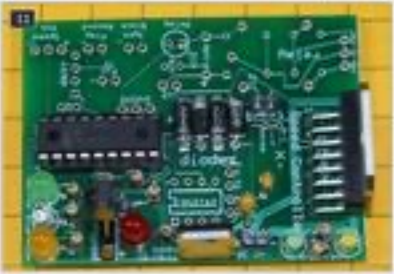
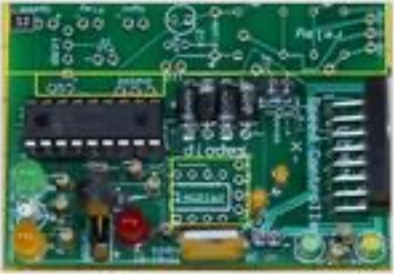




Vacant areas on the board

You may be wondering about the unused areas on the board, those shown boxed in yellow above. These areas are for additional components used in the next phase of this project, where the controller is used to record and play back a train's movements. They will be installed and fully described in part 2. Stay tuned!

For detailed instructions on building, testing, and programming this circuit for the kit I sell, see my website at: trainelectronics.com/PicaxeSpeedController/article.htm.

In part 2, I look at how to do still more with PICAXE circuits for model railroaders.

10-11. The completed board.

12. Unused areas of the PICAXE controller board are marked in yellow.

Parts list and kit availability

The parts used to build the controller include:

- PICAXE 18M2
- 18 pin socket
- circuit board
- L298N H-bridge
- 7805 voltage regulator
- 4 @ 2 amp Schottky diodes or 1N4001 silicon diodes
- 3 @ 0.1 mfd bypass capacitors
- 4.7 mf tantalum capacitor
- 3 @ 5mm LEDs, red, green, amber
- 3 @ 3mm LEDs, blue, green, amber
- 6 @ 470 ohm resistors
- 10K resistor
- 22K resistor
- Vishay TSOP4838 infrared receiver
- 3 pin header for programming
- 2 @ 2 pin headers for power to track and DC power in
- heat sink for L298N
- fuse or poly fuse - 3 amps - either in the power supply or added between the power supply and circuit board
- TV remote control that can generate Sony codes ■

Reader Feedback (click here)

Kit available from the author

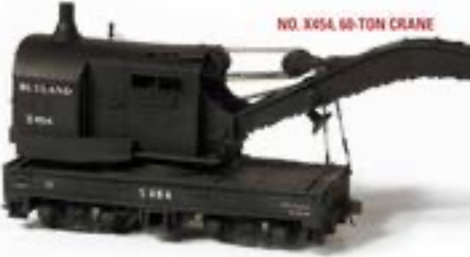
I sell a kit that contains all the parts shown in the article. Just email dave@davebodnar.com. All you need is a power supply and a motor to control. The cost of the kit is $65 + shipping. I can also supply a wired and tested unit, but I hope most readers will enjoy the experience of building the kit themselves.

Dave Bodnar's interest in microcontrollers, electronics and computers fits beautifully into model railroading and allows him to solve his and clients' model railroad challenges.

Dave has three railroads. The first is in the back yard, traversing more than 200 feet of track over two bridges, through tunnels and past a garden pond. The second railroad is an HO module he sets up at various train and community events with other members of the South Hills Model Railroad Club. His third railroad is one built by Dave and other members of the Pittsburgh Garden Railway Society at Pittsburgh's Children's Hospital.

His website, trainelectronics.com, contains scores of articles on his various projects. Many of his presentations are also on YouTube.

When he is not in his workshop, you will usually find him on his road bike traversing the back roads in Western Pennsylvania.



NO. X454, 60-TON CRANE

KITBASH A CRANE KIT

Tichy's 120-ton model is the basis for Rutland's 60- and 150-ton cranes

By Andy Clermont

[illegible]

Materials list

Tichy Train Group
[illegible]

A-Line
[illegible]

Athearn
[illegible]

Cal-Scale
[illegible]

Detail Associates
[illegible]

Grandt Line
[illegible]

[illegible]

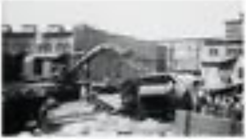
Kadee
[illegible]

[illegible]
[illegible]

Plastruct
[illegible]

Styrene
[illegible]

Fig. 1 The prototypes together. Shortly after the Rutland took delivery of a 150-ton crane from Industrial Brownhoist in 1928, the crane rolled on its side while lifting a locomotive boiler without the use of outriggers. The Rutland's 60-ton crane was brought in to clean up the mess. Clemens collection photo



My grandfather worked for the Rutland RR's maintenance of way department, so I've always wanted accurate models of their work equipment. The Rutland had several cranes, but I never came across a brass model that was close enough to the prototype, and scratchbuilding seemed like an overwhelming project.

I'd checked out the available plastic models and ruled them out because none closely matched the Rutland's 150-ton and 60-ton cranes. Then I came across a photo that made me think the Tichy Train Group kit could be a starting point for the Rutland's 60-ton crane.

Though they appear quite different, author Andy Clemens kitbashed both these HO scale Rutland wreck cranes from the same Tichy 120-ton crane kit.

The photo above, **Fig. 1**, was taken in Rutland, Vt., shortly after the railroad received a 150-ton crane from Industrial Brownhoist. They tried to lift a locomotive boiler without the use of outriggers, and rolled the new crane onto its side.

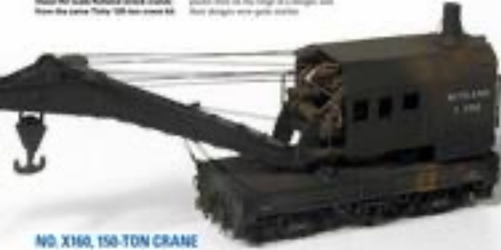
The 60-ton crane that came to the rescue had open sides and looked very much like the Tichy 120-ton crane. This inspired me to start looking through photos and records I had collected through the years, and I found that close models of the Rutland 60-ton and 150-ton can be made from the Tichy kit.

I was surprised to find the 150-ton crane had similarities, as it was built by Brownhoist, while the 60-ton version was built by Industrial Works. I discovered that in 1928, when the Rutland took delivery of the larger crane, the two companies were on the verge of a merger, and their designs were quite similar.

Rutland data books show that the clearance measurements were close, with the 150-ton being 28 feet long and the 60-ton about 18 inches shorter. I compared this to the Tichy 120-ton crane, which is 26 feet over the end sills, and decided to build both cranes.

I'll start by describing the changes required to model [illegible], Rutland's 60-ton crane. The Tichy model is an excellent kit and easy to build if you take it in steps. Even if you don't model the Rutland, my experience might open your eyes to the possibilities this kit offers.

Andy Clemens lives in Albany, N.Y., where he models the Ogdensburg & Lake Champlain Subdivision of the Rutland RR in HO scale.



NO. X160, 150-TON CRANE

The chassis

Crane number X474, built in 1918, served as the Rutland's primary hook for more than 25 years and wasn't scrapped until 1961, after more than 40 years of service. The prototype was shorter than the kit, but I felt shortening the chassis by only a scale 18" wouldn't be worth the effort. Not only would it make the close-up cars closer for the A-frame, cab assembly, deck, and trucks, but would look only slightly different.

On the kit, there's reinforcement molded at the center of the side sill above the outrigging that isn't on the prototype. I removed it with a fine router bit in a motor tool mounted on a drill press, as seen in **Fig. 2**. I then cleaned up the surface with a piece of fine sandpaper glued to a piece of basswood.

The grab irons on the side sill are also in the wrong location, so I filled the grab iron holes by pressing Squadron putty (or a substitute) only through from the back, then drilled new holes to match the prototype. On the end sill, I added car brake hand from .010" brass wire mounted on eye bolts and wire grabs.

I then cut and shaped the rocker car rigger support to a V shape with only one roller, as shown in **Fig. 3**. I used a 2 x 4" scale strip in the bottom center of the V to replace the one that was cut away. I then assembled the chassis according to the Tichy instructions and added a bell under the side sill. Finally, I hung rail clamp chains on Tichy Associates eye bolts on the ends.

Boom assembly

The boom on the 40-ton crane, while having the same shape as the Tichy model's, was lighter. It also had a pulley fork assembly between the boom sides, with the pulley wheel turned to vertical.

To reduce the size of the boom sides, I first cut off the riveted plate covered base. I then cut the riveted straps off the top and bottom of the boom sides (see **Fig. 4**) and used a file to narrow the boom sides to match the photos of the Rutland crane. Then I glued the riveted straps and base back together.

The other change is to the pulley. I assembled the A-frame deck and boom tension rod fork as instructed. I then cut the rings off the boom tension rod forks, along with 1 scale foot of the rod, and glued an 8 x 12 x 18 scale inch styrene block between the 2 fork sections that had been cut off the fork, spacing them 18" apart. The other end of the tension rod forks must be shortened to 4 scale feet, turned on their sides, and glued to the top of the block, as in **Fig. 5**.

I assembled the boom, sandwiching the new fork assembly between the sides. I made a plate to cover the top of the pulley assembly using .010" styrene with rivets pressed in to show the back with a pin. I assembled the primary hook according to the instructions, but the secondary hook must be cut off the "T" and attached to three links of brass chain to match the prototype (**Fig. 6**).

The Rutland crane was equipped with three lights on the boom for working at night. For the ones on either side of the end of the boom, I used Cornell Cast lamp reflectors, and for the headlight under the boom I used a Plastruct light shade with an MV Products 18" lens.

Building the cab

Vermont winters are cold, so to protect the crane crew from the weather, the Rutland shop crew enclosed the cab. To model the cab, I first shaved off the builder's plates from both sides with a chisel blade and saved them for later.

Next, the cab sides (Tichy part numbers K1 and M2) had to be shortened to match the other side of the crane. I made one cut with a razor saw to remove the front corner, one from the top to the lower hood, and the other horizontal. I used the saw to remove a length from the corner so it would match the other side, as shown in **Fig. 7**, then spliced it back in place. I cleaned up the seam with Squadron putty and sanded it smooth.

Next, I narrowed the cab roof on each side by 6 scale inches for a scale length of 9'-3", starting from the front (see **Fig. 8**). I then assembled the cab according to the instructions, but leaving off parts K1, K6, D9, L2 and L3.

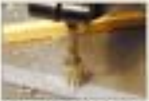


Fig. 2 Milling away detail. Andy used a router tool chucked into a drill press to grind away reinforcement detail on the chassis side frames that wasn't on the prototype. He then sanded the area smooth.

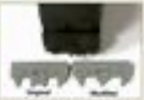


Fig. 3 Modified rollers. On the 40-ton crane, there was only one roller on the end outriggers, but the Tichy model has two. Andy cut the center bracket plate to a V shape (right) and glued one roller mount at the bottom.

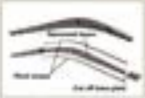


Fig. 4 Lighter boom. Andy modified the kit's boom (seen unmodified at top) by cutting off the base plate and rivet straps, then narrowing the sides with a file before gluing the rivet straps back on.

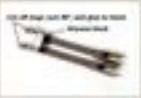


Fig. 5 Modified forks. The Rutland crane's tension rod forks are rotated 90 degrees from the model, and are a scale foot shorter. Andy glued a block of styrene between the pieces to maintain proper spacing.

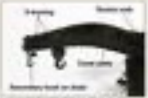


Fig. 6 Boom assembly. [illegible]

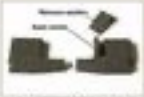


Fig. 7 Asymmetrical sides. [illegible]

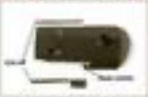


Fig. 8 Narrowing the roof. [illegible]

[illegible]

Details

[illegible]

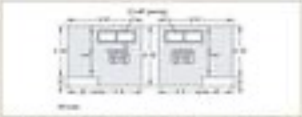


Fig. 9 New walls. [illegible]

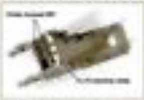


Fig. 10 A-frame changes. [illegible]

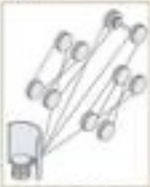


Fig. 11 Wiring diagram. [illegible]

[illegible]

Detailing the chassis

Because locomotives had increased in weight and size by 1939, the Rutland decided it was time to go shopping for a new crane. This time, they went to Industrial Brownhoist for a 150-ton model. Again, it's easiest to take this in steps following the Tichy instructions, making changes as you go.

Beginning with the chassis sills, I filled the grab-iron holes by pressing Squadron putty through from the back. When it had dried, I cleaned up the exterior surface with a sanding stick.

The prototype has brackets at the ends of the side sills to support the outriggers. These supports are shaped as shown in **Fig. 12**. To make sure all these supports have the same contour, I clamped eight pieces of 2 x 4 styrene strips together, then used a file to shape them all identically. I cut them to the same length and glued them between top and bottom braces made of 2 x 4 styrene strip. Their correct positioning is shown on the model in **Fig. 13**.

The end I-beam outriggers also needed additional support. I added stiffening wedges of 2 x 2 styrene to the outside end outrigger (Tichy part number A-4).

Next, I added wire grab irons to the side sill and glued them from the back with cyanoacrylate adhesive (CA). I detailed the ends with wire grab irons, cut levers, brake hoses and chains, and nut-bolts for the rail clamps. The placement of these details is shown in **Fig. 14** along with an unmodified kit end.

The last change to the chassis is to raise the pedestal that the crane body will be mounted on. The only thing I could find with a 7'-0" outside diameter for the raised pedestal was a plastic prescription bottle, but it needed cutting down. I cut it to the height of 9" with a razor saw by spacing the saw blade a scale 9" above a flat surface and clamping it securely. Then, I turned the jar along the blade of the saw as shown in **Fig. 15**, giving me a level cut.

I capped the pedestal with an 8 scale-foot-diameter disc cut from .040" styrene. After gluing the assembly to the center of the original pedestal, I drilled a hole through the center on which I'd later mount the A-frame.

Boom and A-frame

The boom supplied with the kit doesn't look hefty enough for the 150-ton crane, so I substituted a boom made from parts of an Atlas 250-ton crane.

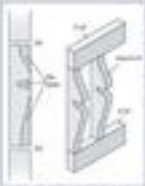


Fig. 12 Outrigger brackets. The Rutland's 150-ton crane had brackets for the outriggers at the ends of the chassis sides. Andy carved his from scale 2 x 4 styrene strip, as shown.

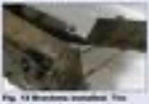


Fig. 13 Brackets installed. This photo shows where the outrigger support brackets, carved from 2 x 4 styrene strip as seen in Fig. 12, should be added to the chassis.

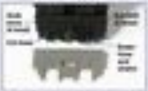


Fig. 14 End details. This view of the finished 150-ton crane end, along with an unmodified kit end plate, shows where Andy placed wire grab irons and other details.

Fig. 15 A clean shave. Clamping a razor saw blade a scale 9" above a level tabletop let Andy cut the bottom off a prescription jar precisely and evenly. This round piece became the 150-ton crane's pedestal.

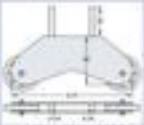


Fig. 16 Scratchbuilt pulley bracket. This assembly, made from the Tichy kit's pulley wheels, .010" sheet styrene, 4 x 4 styrene strip, and nut-bolt-washer castings, make up the new boom tension rod fork.

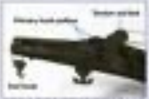


Fig. 17 Boom detail placement. The reconfigured boom detail includes, from left, the Tichy end hook, styrene cross bracing, the vertical primary hook pulleys, the tension rod fork, and Tichy X-bracing.

I split the Athearn boom in half, discarding the X-bracing, and shortened it by 1 scale foot at the base. I reassembled the boom using the shortened Athearn sides, the Tichy rivet and tie-bar boom spreaders (parts F0 and G0), and the Tichy X-bracing. Next, I shortened the top X-bracing by cutting 6 scale feet off the top end to make room for the sheave and pulley wheel bracket.

The hook-bracket and bail was fabricated from .060" styrene sheet, 2 x 4 styrene strip, a pair of 6" nut-bolt-washer castings, and the Tichy pulley wheels as shown in **Fig. 16**. This bale is attached to the top of the boom on a bracket. I built that bracket from .020" styrene using the Tichy pulleys (parts P4 and P5) as shown in **Fig. 17**. I finished the end of the boom with 2 x 4 styrene with rivets pressed in from the back and Tichy's fleeting and boom top casting (part D8). I made the double-ended hook from a piece of the plastic sprue from the kit.

Next, I assembled the A-frame, with some modifications. First I shortened the sides, parts G1 and G2. I cut off the end boom mounts and added new ones fabricated from .030" styrene and trimmed with 1 x 6 strip, as shown in **Fig. 18**. Then I built the A-frame following the instructions, but substituting a piece of 6 x 12 styrene strip for the second pulley assembly.

Cab modifications

To build the cab, I started by removing all the detail from the outside surface of the cab's right side (Tichy part no. K1). I sanded it flat and cut off the portion that extends forward, along with the base. Then I modified the left side to be a mirror image of the right.

Figure 19 shows the new center roof that I made from .020" styrene sheet to replace the original, which I cut out and discarded. I scribed panel seams into the styrene and used a pin to add rivet detail.

I then built a rectangular styrene frame, a scale 1'-6" x 5'-6" x 9'-8", and capped it with .020" styrene sheet to make a box. This would become the new base of the cab. I glued this box between the sides, as shown in **Fig. 20**. I then assembled the rest of the cab, but left off the [illegible] walls, and roof panel (part L4). I replaced this panel with one made from .020" styrene.

After test-fitting the cab on the A-frame, I glued a 6 x 12 styrene strip to the inside back wall of the cab, spaced just far enough above the base to act as a pocket for the rear of the A-frame. I filled the notches in the sides of the roof with .020" styrene shaped to match the contours of the roof.

New sides of .010" styrene were the next step. After scribing seams and cutting window openings as shown in **Fig. 21**, I glued these sides in place.

Cutting the smokestack base from the Tichy roof, I sanded the bottom smooth and fashioned a new stack from a scrap of brass tube. I added a whistle and grab irons to the stack.

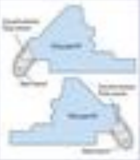


Fig. 18 New boom base mount. To fit the modified Athearn boom, the A-frame sides (part numbers H-1 and G-1) need lower, teardrop-shaped boom mounts crafted from .020" sheet styrene and trimmed with 2 x 6 strip.

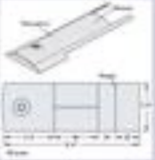


Fig. 19 Replacement roof. The arched roof of the Tichy cab must be cut out to make way for the new flat roof. Andy made the new roof from .020" styrene, embossing rivets into it with a pin and adding the kit stack.

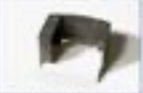


Fig. 20 Cab base and sides. Andy built a scale 1'-6" x 5'-6" x 9'-8" styrene box to give strength to the shortened and modified cab. The Tichy cab sides will be hidden behind the scratchbuilt sides, but are needed for strength.

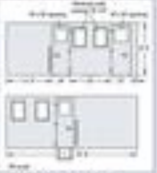


Fig. 21 New sides. This diagram shows the door and window placement for the new cab sides Andy made from .010" styrene. He sanded the Tichy sides flat and laminated the new sides over them.

I painted the crane Floquil Engine Black before final assembly and decaled it using [illegible] decal set no. [illegible]. Finally, I followed the Tichy instructions for rigging the cable and added hooks for details using [illegible] wire, and turnbuckles. ■

[illegible]

The Great Northern's plywood boxcars

With steel needed for the war effort, these boxcars were given plywood sides **Staffan Ehnbom**

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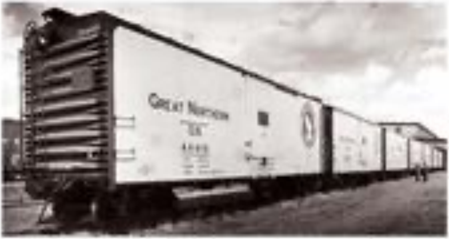
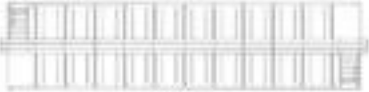
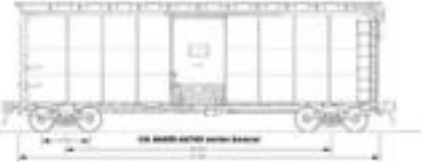

GREAT NORTHERN

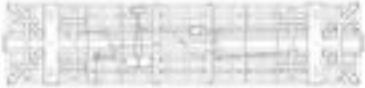
The Great Northern's plywood boxcars



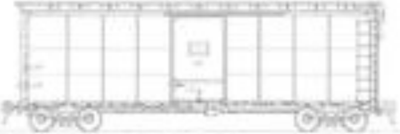
Roof view



GN [illegible] series boxcar



Wood stringer underframe



GN [illegible] series boxcar

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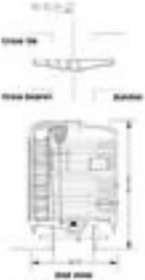

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GREAT NORTHERN

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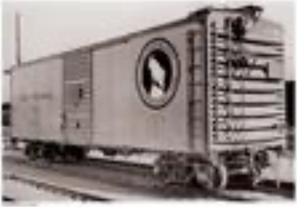
The Great Northern's plywood boxcars



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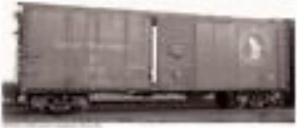

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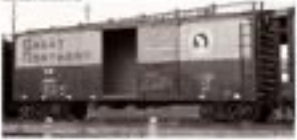

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Painting and relettering

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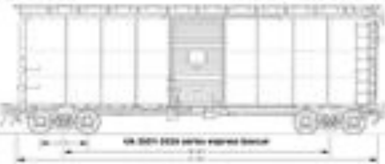
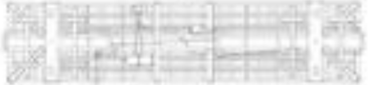
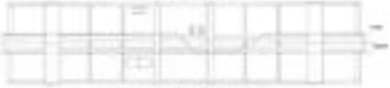
[illegible] Full size for HO scale [illegible]



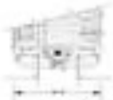
GN 2501-2524 series express boxcar



Steel stringer underframe



Steam heat and signal line layout



Partial end view
GN 2501-2524 series express boxcar

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The Great Northern's plywood boxcars

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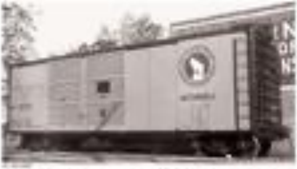

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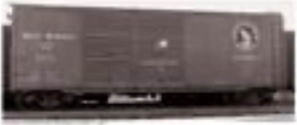

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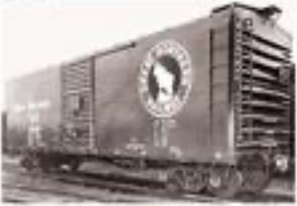

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2014 Valley Forge RPM Meet

An overview of the weekend's events **William C. Schaumburg**

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2014 Valley Forge RPM meet

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New BMW M235i vs Peugeot RCZ R

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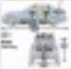
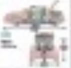

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Our verdict

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Protecting a layout entry gate, part 3

Mike Polsgrove wraps up his three-part series on protecting a layout entry gate by describing how he programmed the NCE Mini-Panels and sound decoder. Photos by the author

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Programming the sound decoder

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Programming the Mini-Panel

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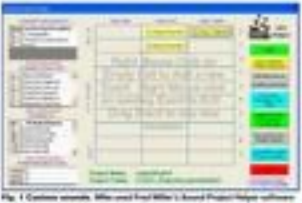

Fig. 1 Custom sounds. Mike used Fred Miller's Sound Project Helper software to transfer the sounds from a real grade crossing into the decoder. The software allows Mike to assign function keys, sound slots, and configuration variables.

Fig. 2 Junction City Mini-Panel program

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Notes from the

MRH STAFF

MRH now #2 – passing up RMC, $139 tablet for reading MRH, TMTV: New module-building series, and more ...

Reader Feedback

MRH now #2 – passing up RMC

This little magazine venture of ours, that we started back in 2009, has grown so it now appears we've overtaken *Railroad Model Craftsman* in circulation. Per the measures we list here, it's safe to say MRH has become the number two general model railroading publication in the hobby as to audience reach.

Let's take a closer look at the numbers. Many of these stats you can check for yourself. To make it easier for you to see where we get the numbers for MRH, our annual audience statement is on the following page.

CIRCULATION AND SUBSCRIBER NUMBERS

Here are the numbers each magazine reported as of January 2014:

Model Railroader:
131,981 total paid circulation;
97,940 total paid subscriptions

Railroad Model Craftsman:
41,177 total paid circulation;
21,973 total paid subscriptions

MODEL RAILROAD HOBBYIST MAGAZINE

STATEMENT OF OWNERSHIP, MANAGEMENT, AND AUDIENCE[1]

Title of publication: Model Railroad Hobbyist Magazine
- ISSN: 2152-7423

Date of statement: 1 February 2014
Frequency of issue: monthly
- Number of issues published annually: 12
- Lifetime subscription: No charge (just supply email)

Location of office of publication:
Woodburn, Oregon 97071
County, Marion
Names of publisher, editor:
Publisher: Joe Fugate
Editor: Joe Fugate
Owner: Joe Fugate
Known bondholders, mortgagees, and other security holders owning or holding one percent or more: none

Extent and Nature of Audience[2] as of Feb 1, 2014

Total monthly unique device views: 111,111 (based on unique IPs)
Total monthly unique users: 73,331 (determined per IAB guidelines)
Total monthly website visits: 232,208
Average duration of website visit: 7:25
Percentage of OS/devices used to visit:
Windows: 64.4%
iOS: 15.8%
Macintosh: 10.4%
Android: 7.5%
Linux: 1.3%
All others: 0.6%
Percentage of browsers used to visit:
Internet Explorer: 26.9%
Chrome: 24.4%
Safari: 22.1%
Firefox: 20.1%
All others: 6.5%
Total mailing list subscribers: 28,605

I certify that the statements made above are correct and complete.
Joe D Fugate Sr., CEO and Publisher
Model Railroad Hobbyist Magazine

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[1] [illegible]

[2] [illegible]

May 2014 MRH Ratings

The five top-rated articles in the May 2014 issue of MRH are:

- **4.7** DCC Impulses: Programming track tricks
- **4.7** Tom Johnson's Logansport & Indiana Northern
- **4.5** Build a detector for $10
- **4.4** Tool shed: Nibblers
- **4.4** Yes, it's a model

- Issue overall: **4.6**

Please rate the articles!
Click the reader feedback button on each article and select the star rating you think each article deserves. ***Thank you!***

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Model Railroad Hobbyist:
73,333 total monthly unique users (circulation);
28,605 subscribers

By these counts, MRH has 30% more subscribers than RMC and 78% more readers.

The subscriber number is a hard number – we count subscriber emails to get the number of subscribers. However, the unique users number (our "circulation") is a computed number derived using the IAB guidelines. The Interactive Advertising Bureau (IAB) is an official organization that defines the standards for how eZines measure their audience reach.

This all gets rather technical because we use Google Analytics to get help derive these visitor numbers. Google Analytics for the January issue of MRH shows that we had 111,111 unique device

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visits, but this number does not equate to unique viewers. People may use more than one device to view the MRH website or to view our magazine. So we need to "de-dupe" Google's visitors number.

(If you're interested, here's a discussion of how unique Google's unique visitors number really is.)

Per the analysis at the link above, they find the true unique users number is typically somewhere between 61% and 75% of Google's unique visitors number. In our case, based on our 2013 reader survey and how many said they read MRH with more than one device, we use 66% as the factor we apply against Google's monthly unique visits for the MRH website.

Doing the math gives us:

111,111 x 66% = 73,333

Per the analysis at the link above, our unique monthly visitors number could vary between 67,000 and 83,000. We feel pretty safe going with 73,000 since it's on the lower end of the middle and it comes from our recent reader survey. It's worth noting that any of these numbers are larger than RMC's reported 41,000 circulation, which is the whole point of this discussion.

There is more ...

There are a number of other measures we can use to demonstrate MRH's web audience reach versus that of RMC. All of these measures show MRH has the greater reach, lending credence to our claim that MRH has now become the number two general model railroading publication in the hobby, surpassing RMC.

Using stats from the web traffic tracker site, similarweb.com, we find the following monthly website visits:

Model Railroad Hobbyist (model-railroad-hobbyist.com)
110,000 visits

Railroad Model Craftsman (rrmodelcraftsman.com)
20,000 visits

If we look on the number one website in the world, Facebook, we see as of this writing:

Model Railroad Hobbyist on Facebook
6748 likes

Railroad Model Craftsman on Facebook
5959 likes

If we check the number three website in the world, YouTube, (Google is the number two website after Facebook), we find only MRH and *Model Railroader* have official pages there, while *Railroad Model Craftsman* has no official YouTube page.

June 2014

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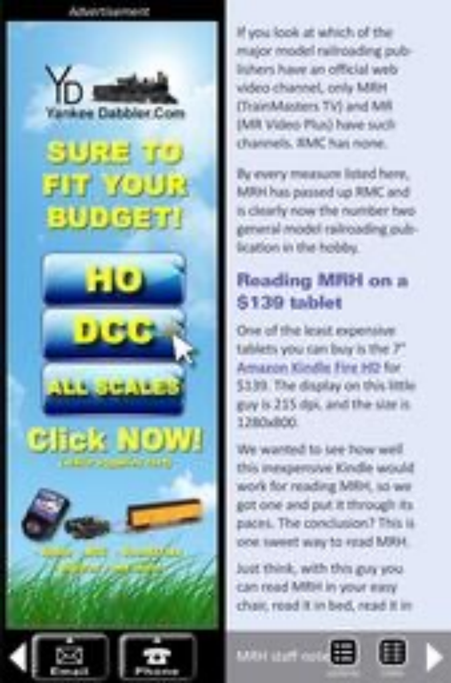
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If you look at which of the major model railroading publishers have an official web video channel, only MRH (TrainMasters TV) and MR (MR Video Plus) have such channels. RMC has none.

By every measure listed here, MRH has passed up RMC and is clearly now the number two general model railroading publication in the hobby.

Reading MRH on a $139 tablet

One of the least expensive tablets you can buy is the 7" Amazon Kindle Fire HD for $139. The display on this little guy is 215 dpi, and the size is 1280x800.

We wanted to see how well this inexpensive Kindle would work for reading MRH, so we got one and put it through its paces. The conclusion? This is one sweet way to read MRH.

Just think, with this guy you can read MRH in your easy chair, read it in bed, read it in

MRH staff note

the "throne room," take it into the layout room or take it to your workbench, and you can also bring MRH with you on the go.

The $139 version has 8 GB of memory and includes wi-fi, so if you are near a wi-fi hotspot, you can click the comment or ad links on an issue and go to the page on the web. That 8 GB will hold over 100 issues of the MRH Standard Edition, so you can take your entire MRH collection with you!

MRH on Amazon's new 7" Kindle Fire HD, price: $139.

We've found the best app to use for reading MRH on an Android tablet like the Kindle Fire is ezPDF Reader PRO (see the icon at the right). This app costs $4 to download, and it does a very nice job displaying the MRH Standard Edition PDF. All the links are clickable, and the Portrait format of MRH is very readable.

You can pinch-zoom on the images and you can watch the linked videos and click-n-spins on the Kindle Fire HD tablet.

We find downloading the Portrait version to be as easy as opening up a browser session on the MRH website, clicking the green *Other copy options* button for the portrait version, and clicking the link for the Standard Edition. It will tell you it's downloading the issue and in a few moments (depending on the speed of your wi-fi connection) the issue will be on your device. Look in the All PDFs area of ezPDF Reader to find it.

We feel reading MRH on a tablet takes it to a whole new level as compared to reading MRH on a computer. It's way more convenient than using a laptop – and at $139, it's a whole lot cheaper.

Did we mention that TrainMasters TV videos (using the alternate player) also play nicely on the Kindle Fire HD?

TMTV: New module-building series coming

Speaking of TrainMasters TV, a new how-to series is coming to TMTV. Trevor Marshall of Model Rail Radio is working with us to do a series on building Free-Mo modules in S scale.

We like S scale because it's large to show up well on your video screen, and the techniques will apply to other scales as well. (Plus, S scale is just a darn nice size to build in, regardless).

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If you'd like to know more, or if you'd like to talk with Trevor about the series, see this thread on the MRH website: mrh-mag.com/node/18021 ...

We are running a TrainMasters TV survey with MRH readers. We're looking to see what extra-value video we could bring to TMTV for you. This survey is your chance to tell us what would be of the greatest value to you.

TrainMasters TV's motto is "helping you become a better modeler, one video at a time." As we do the hobby, we all hit roadblocks and things we'd like some good solutions too. If you have some things you'd really like to see demonstrated for you on video, let us know and we'll see if we can pull something together.

Remember to take the TMTV survey!

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Also give us a few paragraphs about yourself: first, tell us how you got into the hobby, then tell us about your current hobby pursuits and passion. Finish up with a little about your family, what you do for a living, and what other interests you may also have.

We cover all this in our author submission guidelines (model-railroad-hobbyist.com/submission-guidelines). Please read and follow these guidelines – it makes your submission feel a lot more professional, and by following these guidelines, you make our job of converting your article into its final published form a lot easier.

Ops Live 5 & 6 videos coming this summer

This summer, we're coming out with Ops Live volumes 5 and 6, this time on Mike Confalone's Allagash. We've completed the 4-volume eBooks series on Mike's layout, and now we're completing our 2014 "Allagash Bash" by coming out with two Ops Live videos on Mike's railroad. Volume 5 covers general operations on the Allagash, and volume 6 focuses on operations in New Sharon yard. You don't want to miss these new additions to the Ops Live series!

This issue

John Golden has done a fabulous job in this issue's cover story describing how to build some nice models of the Seaboard B-8 and B-9 boxcars. Even if you aren't building these specific models,

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you'll want to peruse John's article for some great techniques you can use on any rolling stock model project.

We also present some nice how-to tips on steam-era freight car weathering from Charlie Duckworth, and if you ever wanted a fast and easy way to make a lot of dandy-looking deciduous trees quickly, you'll want to see Randy McKenzie's Fast and Easy Trees article. Rob Bennett shares how to use Vallejo earth texture to get a very believable textured industry roof in short order.

We're publishing the first place winner of our $500 Layout Design Contest this month: Eugene Griffin's present-day era HO layout design, getting you off to a great start for just $500!

Because Bruce Petrarca is taking a vacation this month (he's travelling abroad for fun), we're running a couple of electronic circuit articles for you.

First we have Dave Bodnar helping you discover the possibilities of remote control using the simple PICAXE kits aimed at helping high-schoolers learn modern electronics. Then the MRH staff takes a look at RR-CirKits great new highly affordable signaling circuit boards.

This leaves our regular columns in this issue. First is Getting Real, where Marty McGuirk gets brave and completely destroys and rebuilds the Williams Creek bridge scene on his HO SNE layout.

Larry Smith, our branchline and narrow gauge guy, starts a build of a coal tipple, and Ken Patterson looks at some awesome weathering decals by Joe Stelmann.

Finally, Publisher Joe Fugate provides both the editorial on setting your layout era, and some contrary thoughts about a model railroad that feels like the real thing, in Reverse Running

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back to previous page of text ...

Bringing up the rear is Derailments, this time featuring a railroad-themed music video that's a little tongue-in-cheek, but has a good message.

Enjoy June's MRH! If any of you are going to the PNR convention in Tacoma in June, make sure and say hello! ☑

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April ASMC

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3. [illegible]

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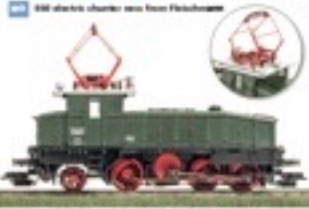

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SBB Re4/4^{II} electric news from Märklin

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Swedish Dm3 multiple electric [illegible] from Trix

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DB type Offs55 car carrier new from Exact-train

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type [illegible] refrigerated van new from Märklin

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assembled overhead maintenance wagon new from Kibri

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Z Deutsche Bundesbahn Blauer Enzian set new from Märklin

[illegible]

TT [illegible] second class couchette new from Tillig

[illegible]

Queensland cattle wagon new from [illegible] Models

[illegible]

[illegible]

Deutsche Bundesbahn [illegible] car carrier by Hobbytrain

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[illegible]

VR 'Puffing Billy' NA class 2-6-2T new from Haskell

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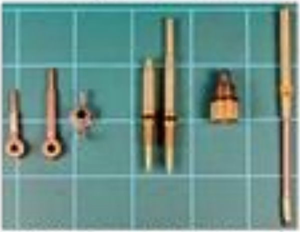

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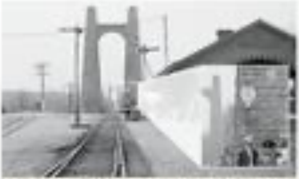

This 1907 photo of the High Bridge station next to the Cincinnati Southern Railway's High Bridge in Kentucky also shows an early automatic block signal. [illegible]

Q While surfing the Web, I found an old image of the High Bridge in Kentucky. In the picture, there is an unusual sign that can be seen on each side of the bridge. Can anyone tell me what it means? It was also visible in a separate image of a tunnel. — *Larry Brough, Newark, Ohio*

A [illegible]

Q [illegible]

A [illegible]

Q [illegible]

A [illegible]

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On Sept. [illegible], a Montana Rail Link local in Livingston, Mont., heads onto an old branch line that once went to Gardiner, Mont., and the north entrance to Yellowstone National Park. The [illegible] are taking [illegible] cars and a caboose [illegible] to a lumber mill about a mile south of the crossing. [illegible]

Q **On a recent visit to Montana I saw what appeared to be the remnants of a railroad line from Livingston, Mont., near Yellowstone National Park. Was there once a rail line there?** — [illegible], Victoria, Australia

A The remnants were from a Northern Pacific Branch line that went [illegible] miles from Livingston to the Northern Entrance of Yellowstone National Park at Gardiner, Mont. Known as the Park Branch, the Burlington Northern had abandoned all but a [illegible] mile stretch [illegible] at Livingston by [illegible]. Montana Rail Link [illegible] the branch to serve a local [illegible]. — [illegible]

Q **What is the typical width of a railroad right-of-way?** — [illegible], Oregon, Ohio

A Typically, rights-of-way extend [illegible] feet on either side of the centerline of the main track. [illegible] — Michael W. Blaszak

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Reverse Running: Stepping outside the box with a contrary view

by Joe Fugate

Reader Feedback
click here

I love this photo of Brian Bennett from one of Mike Confalone's operating sessions. To me, this photo speaks to the fantastic job Mike Confalone has done creating a model railroad in miniature that feels like it's a real railroad.

Not everyone is into prototype or proto-freelance modeling operations. I recall the janitor at my high school liked model railroading, and so did I. The janitor didn't care one iota about ops, but did he love building models! We had a great time talking trains, leaving many fond memories.

But for me, it's the operations side that excites me the most about the hobby. The model building, the wiring, the benchwork and trackwork – that's all a means to get to the part I love the best: running the trains realistically.

When I think back to what fascinates me most about trains, it's the noisy, gritty, big machines hauling tonnage.

MRH has been doing what we call our "Allagash Bash" with the two-part railfan trip in January/February, and the new eBook series since January – not because we think modeling 1980s Maine in April is cool. No, we think Mike Confalone has captured the essence of really railroading with his models in a way that more modelers need to learn about.

As part of gathering content for the Allagash Bash, I attended one of Mike's operating sessions in July of 2013. I must confess, I was impressed – and as one who has seen hundreds of model railroads now, it's not easy to impress me at the "that's amazing" level, but Mike's HO Allagash managed to do that for me.

First, Mike has executed his layout scenery and photo backdrops with finesse. The scenery-to-track ratio often favors the scenery, further driving home the rural setting.

Second, there were no derailments I can recall during the entire op session. That is rare. It takes good equipment and trackwork to pull that off, as well as an experienced crew that's not making a lot of mistakes like running turnouts thrown against them.

Thirdly, Mike overweights his rolling stock by roughly double the NMRA weight standard. As a result, all the trains on the Allagash feel more massive, the cars don't "wobble" and everything stays on the track better. The trains feel more like "tonnage" when they roll by because they actually do have more mass.

Finally, every loco on Mike's layout has sound. All too often sound can become annoying, but Mike's got it just right. Mike turns the volume down so you can't hear locos from across the room – the sound isn't blaring. You need to be close to the loco to really hear it well.

The total effect of all this makes the Allagash feel different than many model railroads. It seems like you are looking at a scaled-down version of a real railroad rather than just some plastic toys. You get pulled into the action like few model railroads I've seen; you feel as if you're really railroading, with those big gritty, noisy machines pulling some serious tonnage!

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Gallery

By the last streaming light

Nickel Plate Road 2-8-4 No. 765 pours it on east of Huntington, Ind., near sunset on Oct. 18, 2014, on the return leg of a Fort Wayne, Ind.–Lafayette, Ind., round-trip excursion. The rails are those of the Wabash main line, now part of Norfolk Southern. — Photo by John D. Troxler

Carolina crossroads

The lights of Seaboard Air Line's southbound Silver Star and a Charlotte-bound Norfolk Southern [illegible] freight cross in a time exposure at Boylan Tower in Raleigh, N.C., in September 1961. [illegible] crossing at this point: Southern Railway, sharing track with Seaboard a short distance into the state capital. A crossing still remains here, now between today's Norfolk Southern and CSX, but the tower is gone. — Photo by J. Parker Lamb Jr.

Wings and a bumblebee

The "shot of a lifetime," says the photographer of this amazing combination of Missouri Pacific and Virginian heritage units from Union Pacific and Norfolk Southern, respectively, pulling a BNSF Railway manifest on former Chicago, Burlington & Quincy rails. The date: Dec. 28, 2013. The place: [illegible], Neb. — Photo by Tom [illegible]

Rush hour in Jersey City, 1962

On a beautiful spring afternoon in 1962, the commuter train parade on the Central Railroad of New Jersey was a sight to behold. Within a matter of minutes, the photographer [illegible] the products of Fairbanks-Morse, Alco, and EMD, all shuttling harried workers home in Jersey City, N.J. — Photo by Ralph [illegible]

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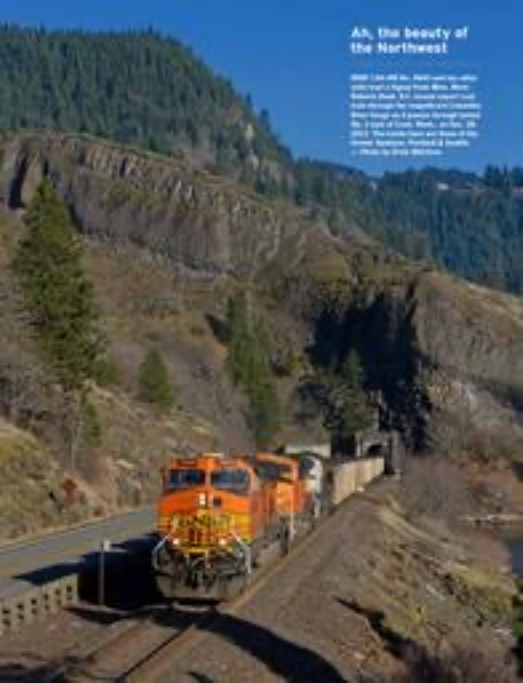
[illegible]

Chicago sprawl

High above the cars, taxis, and people rushing to visit the Willis Tower, a Chicago Transit Authority train rumbles overhead near the corner of Jackson Boulevard and Wells Street in downtown Chicago on July 18, 2013. CTA's Brown, Pink, Orange, and Purple lines run here. — Photo by Steven [illegible]

Straight up

The pool hall in [illegible], Ill., reportedly built in the 1880s, has seen its share of trains over the years, whether they were those of the Chicago, Burlington & Quincy or today's BNSF Railway. On Sept. 7, 2013, a Galesburg, Ill.-bound train with Union Pacific power is reflected in the window of this venerable gaming establishment. — Photo by Roger H. [illegible]



Ah, the beauty of the Northwest

[illegible] Wash., [illegible] Spokane, Portland & Seattle. — Photo by [illegible]

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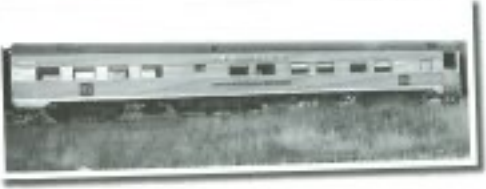

NH *Keystone State*

Following the end of World War II, the nation's railroads upgraded their passenger fleets in an attempt to return to the passenger business. Even the perennially financially strapped New York, New Haven & Hartford Railroad bought new streamlined cars for its long distance trains that the railroad operated in conjunction with other New England lines. Ordered in March 1953, Pullman-Standard built four special six double-bedroom/buffet/lounge cars at its Worcester, Massachusetts, plant. Delivered in January 1955, Pullman operated the *State* series cars under a contract with the New Haven Railroad. The cars were intended to replace former heavyweight equipment on the New Haven Railroad. They were assigned to the Montreal and Maine trains in the overnight [illegible] and on the Boston–Washington *Federal*.

The *State* series were the last sleeping cars purchased by the New Haven Railroad. Pullman designed the cars so that bedrooms A & B, C & D, E & F could be joined — the only car with this particular layout. The cars also had a buffet and a lounge area with [illegible] seats designed to serve a liquor and light breakfasts. The kitchens had [illegible] and were like small dining car kitchens where chefs could cook broiled steaks, fish, and hamburgers. The lounge had triangular tables and seating against the wall as well as the traditional table seating, with passengers facing each other. The food and beverage service in the *State* series sleeping cars were also operated by Pullman Company employees. These cars had [illegible] stainless steel sides with the New Haven monogram on the end of the car. The car numbers over the years were:

Name	NH	PC	Amtrak
Bay State	550	4404	[illegible]
Keystone State	551	4405	[illegible]
Nutmeg State	552	4406	[illegible]
Pine Tree State	553	4407	[illegible]

After the *State of Maine* was discontinued in 1960, the *Nutmeg State* and *Pine Tree State* were used on the *Merchants* and *Washingtonian*, replacing the [illegible] cars. With the ending of the *Montrealer* in 1966, Penn Central used the *State* series on its various trains, including the *Broadway Limited*, and via the routes of 1968, the Long Island Railroad leased the *Nutmeg State* and *Pine Tree State* for parlor car service on the railroad's *Montauk Cannon Ball* to replace parlor cars that had been scrapped.

When Amtrak began operating the nation's passenger trains in 1971, the *State* series cars were [illegible] that they were used on Florida routes. Amtrak used the *Keystone State* as an [illegible] for a few years. The *Nutmeg State* and *Pine Tree State* were retired in July 1988, followed by the *Keystone State* and *Bay State* [illegible] 1981.

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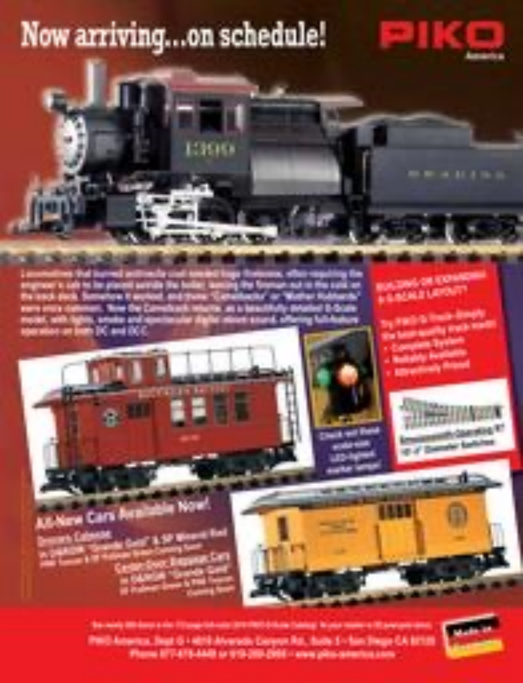

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